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UNDERSTANDING AND ENCOURAGING CLIMATE FRIENDLY ACTION: A STUDY OF INDIVIDUALS' PERSONAL ENERGY AND TRANSPORTATION DECISIONS AND BELIEFS ABOUT CLIMATE CHANGE

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ABSTRACT
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Understanding and encouraging climate friendly action: a study of individuals' personal energy and transportation decisions and beliefs about climate change

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There is a strong scientific consensus that climate change is happening, is caused by human activities, and will have significant negative consequences. Avoiding the most severe consequences will require significant reductions in carbon dioxide emissions, including changes in individuals' personal energy and transportation choices, which can contribute significantly to climate change. Past research has identified a wide range of factors that may influence perceptions of climate change and willingness to act to reduce it. However, there are still considerable gaps in our knowledge. There is limited understanding of how different factors interact in people's decisions about personal energy and transportation. Additionally, most previous research has focused on behavioral intentions rather than actual behavior, and there tends to be a considerable gap between intentions and actions. Therefore, the goal of this study was to gain a more holistic and in-depth understanding of how different influences interact in people's decision processes to motivate their personal energy and transportation choices. This study used interview data and a qualitative analysis approach to gain this in-depth understanding and complement past research, which has used mainly psychometric, survey-based research methods.

I found that individuals' decisions about personal energy and transportation actions occurred in (at least) two stages. First, people had a preferred approach to energy and transportation use. This was most often based on key values and social factors. A preferred approach to personal energy and transportation actions that included climate friendly actions was frequently motivated by pro environmental values. However, values about consumption and social justice were also important motivators. Membership in a social network that supported climate friendly actions was also important. However, people's actual personal energy and transportation actions were the results of an 'in the moment' decision making process in which their preferred approach was often mediated by other factors including their lifestage – such as requirements of having a family, conflicting desires, or failure to keep their more-values based preferences top of mind. Interestingly, climate change itself was not an important reason for climate friendly actions; mainly because people felt that their ability to reduce climate change through individual action was very limited.

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Table of Contents

CHAPTER 1: INTRODUCTION/ PROBLEM STATEMENT

There is a strong scientific consensus that climate change is happening, is caused by human activities, and will have significant negative consequences (IPCC, 2014). The Intergovernmental Panel on Climate Change, an international body that reviews and summarizes climate change research, has concluded with 95 percent certainty that human actions are causing climate change (IPCC 2014). Furthermore, scientists agree that we need to limit average global temperature increases to 2 to 3 degrees Celsius (IPCC, 2014) to avoid the most severe consequences of climate change which may include sea level rise, changes in growing seasons and regions, species extinctions, increases in extreme weather events, increases in the severity and range of diseases, human health impacts, and considerable economic, social, and political instability. Most scientists agree that limiting temperature increases to this range will require keeping atmospheric carbon dioxide (CO_2) levels below 450 parts per million (ppm). Recently, some scientists have suggested that we may even need to reduce CO_2 concentrations to 350 ppm from the current level of nearly 400 ppm in order to avoid serious consequences. However, scientists predict that at current emission rates, we will exceed 550 ppm by 2050, well past the emissions range necessary to avoid severe consequences (IPCC, 2014).

Individual behavior change will be required to address climate change

Reducing CO_2 emissions to maintain an atmospheric level of 450 ppm will require changes in how people generate and use energy for industrial and agricultural production, residential uses, and transportation. Reductions in deforestation will also be necessary. Studies suggest that industrialized nations will have to reduce greenhouse gas emissions by 80 percent by 2050 from a 2010 baseline to accomplish this climate stabilization goal. That will require reducing greenhouse gas emissions in the U.S. by at least 2 percent per year beginning in 2011 (Presidential Climate Action Project).

To accomplish this level of greenhouse gas reduction, behavior changes by individuals will be critical. According to some studies, approximately 85 percent of CO_2 emissions in the United States come directly or indirectly from individual consumption (Bina and Dowlatabadi, 2005). Energy used for electricity and heat in residential buildings and in vehicle use contribute approximately 38 percent of greenhouse gas emission in the United States (Stern, 2011).

Furthermore, individuals' perceived needs and preferences are a primary driver of the products and services businesses provide and the policies governments implement, both of which significantly influence GHG emissions. Therefore, reducing the effects of climate change will require significant changes in individual behavior including increased conservation; increased demand for and adoption of new technologies to improve energy efficiency and use new energy sources; and increased support for new laws and regulations. Given that individuals' use of energy in their homes and for personal transportation contribute nearly 40 percent of the total greenhouse gas emissions in the United States (Stern, 2011), these are particularly important areas for encouraging more climate friendly individual behavior choices. However, our understanding of how to motivate the level of individual behavior change and action that is required to minimize the most negative impacts of climate change is limited.

Americans lack concern about climate change

One barrier to encouraging greater action by individuals is Americans' low level of concern about climate change. For example, as of March 2014, over half of Americans said that they worry about climate change not at all or only a little, according to the Gallup organization's public opinion polling on the environment (Gallup, March 2014). It was rated as the second to least important issue in a list of 15 major social, environmental, and economic issues in terms of amount of worry Americans have about it. In the same poll, only 36 percent of Americans said that climate change posed a serious threat to their way of life, even though 68 percent believe that it is either already happening or will happen in their lifetimes. In addition, 42 percent of Americans said that in general concern about climate change is exaggerated. The percentage of Americans who believe that the threat of climate change is generally exaggerated has increased significantly since Gallup first started asking this question in the late 1990s, when only 34 percent felt the threat was exaggerated.

A public opinion poll undertaken by the Pew Charitable Trusts in early 2014 found similarly low levels of concern about climate change in the American public (Pew, January 2014). Pew also found that Americans routinely rank climate change as a low priority for the federal government to address. In January 2014, American's ranked it second to last in terms of importance in a list of issues that Congress and the President should address, with only 29 percent of Americans rating it as a top priority. This poll also found that less than half of

Americans (44 percent) believe there is solid evidence that climate change is primarily human caused.

The results of the Pew and Gallup polls are also supported by a recent report on public perceptions of climate change by the Yale Project on Climate Change Communication (Lieserowtiz et al., 2014). Interestingly, this study also found Americans are very pessimistic about the nation's ability to stop climate change: only 5 percent of respondents believed that American's will be able to successfully mitigate climate change.

Public opinion polls also continue to find deep divides in beliefs about and concern about climate change based on political party. Democrats are far more likely to believe climate change is human caused and to be highly concerned about it than are Republicans. In fact, two polls have found increasing divergence between Democrats and Republicans belief on the issue over the past years (Pew, 2014; Gallup, 2014).

American's lack of concern about climate change is reflected in an overall failure to reduce greenhouse gas emissions as much as would be needed to avoid the worst impacts of climate change. Though greenhouse gas emissions in the U.S. did decline in 2011 and 2012, they actually increased by about 2 percent in 2013 (EIA, 2013). However, there are also some positive trends in terms of individual behaviors that reduce greenhouse gas emissions. For example, vehicle miles traveled in the U.S. went down for the eighth straight year in 2013 (Federal Highway Administration https://www.fhwa.dot.gov/policyinformation/travel_monitoring/tvt.cfm). In 2013, Americans use of public transit also increased, reaching its highest point since 1956 (APTA, 2013). In addition, sales of hybrid vehicles reached a new high in 2012, nearly doubling from the previous year, after declining consistently since 2007 (U.S. Department of Transportation, Bureau of Transportation Statistics, National Transportation Statistics, 2012 http://www.rita.dot.gov/bts/sites/rita.dot.gov.bts/files/publications/national_transportation_statistics/index.html).

Understanding of how to motivate individuals to address climate change is limited

A growing body of academic research is aimed at understanding what influences beliefs and perceptions about climate change and individual action to reduce it. This research comes from many different disciplinary backgrounds including social psychology, risk perception,

consumer behavior, economics and behavioral economics. Studies have identified a range of behavioral theories, constructs, and processes that may help explain individuals' beliefs about and responses to climate change including values, attitudes, social and personal norms, economics, and risk perceptions. These studies provide a good start in understanding what may motivate people to take action to reduce climate change. However, the knowledge they provide is somewhat fragmented. For example, many studies focus on the influence of just one theoretical construct. Even those that assess the role of multiple factors usually explain less than half of the variance in climate change perceptions and action. Furthermore, the vast majority of past studies use psychometric, survey based research, which reduce people's beliefs and thought processes to relatively simple questions that can be measured with numerical scales. These studies also assess each potentially influencing factor as an individual variable and then piece them back together using statistical analyses rather than assessing the complex and nuanced relationships and interactions that occur in individual's real world decisions. As a result, past studies do not provide an understanding of how the many different elements that may influence climate change perceptions and behavior fit together in the context of individuals' actual thought and decision processes. In addition, most studies have focused on individuals' behavior intentions rather than what motivates individuals' actual personal energy use and transportation behavior. Given that there can be a wide gap between what an individual says they will do on a survey and what they actually do in the real world, this is a significant limitation (Kollmus et al., 2002, Gifford et al., 2011, Klockner, 2013; Stern, 2011).

Addressing limitations in current knowledge

To address some of the limitations of previous research, the goal of this study was to gain a more holistic understanding of how individuals make decisions about their personal energy use and transportation –- key factors in individuals' contributions to climate change -- and their beliefs about climate change. The study particularly focused on assessing how different influences interact in people's thoughts and decision processes to motivate their final decisions on personal actions that can reduce climate change. Looking at this whole picture of behavioral decision making and beliefs about climate change has made it possible to understand if and how climate change plays a role in individuals' choices about climate friendly behaviors. Perhaps

more importantly, it has also made it possible to understand why people engage in climate friendly behaviors even if climate change is not a primary reason for their actions.

To gain this understanding, I took a somewhat different approach from many previous studies. First, I focused on understanding individuals' actual personal energy and transportation behaviors, rather than their behavioral intentions or their theoretical behavior choices. Throughout this paper, I refer to these and other individual actions that serve to reduce greenhouse gas emissions as "climate friendly" behaviors. But, it is important to note that this quick reference term refers to the results of the actions, not necessarily individuals' intentions in undertaking them. To understand potential differences between people who engage in more and less climate friendly action, I included people who engaged in high levels of climate friendly energy and transportation actions as well as individuals who engaged in moderate and low levels of climate friendly actions. Second, I used a different methodological approach. Instead of assessing individuals' behavior choices through the lens of any specific theoretical framework, or choosing in advance which possible behavioral motivations to assess, I assessed the whole picture of an individual's decisions, motives, and beliefs from their point of view using in-depth interviews.

Research Objectives

Based on the gaps in previous research described above, my primary goal was to provide a more holistic assessment of how individuals make decisions about behaviors that result in lower personal carbon emissions –regardless of whether or not climate change is a reason for these actions; how people think about climate change; and how different factors interact in these thought and decision making processes. The following outlines the specific research questions I sought to address in this study.

1. **What motivates people's personal transportation and energy use actions** – individual behaviors that are primary contributors to climate change? What factors are most important to an individual's decisions about these behaviors? Do the variables used in commonly applied theories of pro-environmental behavior show up as important motivators for individual behavior when individuals are asked to describe their actions

and motives from their own point of view rather than being assessed through an *a priori* theoretical lens? For example, do individuals discuss values, personal and social norms, attitudes, perceived behavioral control, habit and past behavior, and/or financial incentives when describing their energy and transportation decisions?

2. **Do individuals' decision making processes about personal energy and transportation actions help to understand the often-found gap between behavioral intentions and behavior?** Do people include factors in their actual decision making process that are not included in most social psychological explanations of behavioral intentions and behavior? Can assessing how individuals think through day-to-day energy and transportation decisions in their own words help to understand the failures of previous research to explain individuals' behavioral choices?
3. **Do people consider climate change when making decisions about personal energy use and transportation**? For example, is climate change a motivating force for people who engage in personal actions that reduce climate change? Do people who believe that climate change will impact them personally or otherwise find climate change to be more personally relevant engage in higher levels of climate friendly action, and is this feeling of personal relevance an important motivator for their actions?
4. **Do differences in beliefs about climate change help to explain why some people engage in high levels of climate friendly actions and other do not?** For example, do people who have more "pro-climate change beliefs" such as believing in human causes and having high levels of concern about it engage in higher levels of climate-friendly behaviors? Do these beliefs seem to be the main reason for their climate-friendly actions?
5. **What can answers to these questions tell us about how to encourage more individuals to engage in personal energy and transportation or other actions that help to reduce climate change?**

Overview of dissertation structure

The remainder of this paper addresses these research questions based on the following structure. First, in **Chapter 2: Literature Review**, I summarize previous research on motivations for pro-environmental behavior in general, beliefs about climate change, and climate-friendly behavior. I

also assess limitations of past research, which provides important background for my approach to this study. In **Chapter 3: Methods**, I describe the overall approach for this study, which uses in-depth interviews. I also describe the specifics of my sampling, data collection, and analysis methods. I present the results of my analyses in two chapters. First, in **Chapter 4: Idiographic Analysis**, I present my in-depth analyses of seven individual interviews and the key conclusions from these analyses that help to understand individuals' motives for climate friendly actions and their beliefs about climate change. In **Chapter 5: Nomethetic Analysis**, I present the findings of my "cross-interview" analysis, which explores how patterns across interviewees help to understand individuals' personal energy and transportation actions and decision making processes. Finally, in **Chapter 6: Discussion** and Recommendations. I discuss how my results connect to past literature. I also provide some thoughts on the real world implications of my findings and how they might be used to encourage more people to engage in higher levels of climate friendly actions. The **Appendices** contain important information supporting my results including the quotes from interviewees that support my idiographic and nomethetic analysis chapters.

CHAPTER 2: LITERATURE REVIEW

Past research into climate change perceptions and climate-friendly behavior, or individual actions that help to reduce greenhouse gas emissions and climate change, provides an important base of knowledge on which this study was built. This literature review has two primary goals. First, it provides an overview of what is currently known about the factors that may influence people's perceptions of climate change and willingness to engage in climate friendly actions. Second, it highlights what I believe are the limitations of this past research and how these have led to my overall approach for this study.

Past research on climate change perceptions and reduction behavior

Past research on climate change perceptions is relatively clear on at least two points: Americans are highly aware of climate change, but they remain relatively unconcerned about it. Based on multiple semi-annual polls tracking climate change knowledge and perceptions for over two decades, it is clear that a majority of Americans are highly aware of climate change and they believe they "know a lot" about it (Nisbet and Meyers, 2007). Furthermore, a majority believe that climate change is occurring or will occur and will have generally negative consequences (Nisbet and Meyers, 2007; Gallup, 2009; Gallup 2014; Pew 2014). Nonetheless, American's concern about climate change is quite low. In national surveys climate change is almost always ranked lowest on the list of key domestic priorities and is even ranked below other environmental issues (Curry, 2007; Gallup, 2008; Nisbet and Meyers, 2007; Gallup 2014; Pew 2014). Academic studies that have directly assessed American's feelings about climate change also support this generally low level of concern (Lorenzoni et al., 2007; Leiserowtiz, 2005; Seacrest et al., 2000). Low levels of concern have been proposed as a key reason Americans are not taking action to reduce climate change (Leiserowitz, 2006; Lorenzoni et al., 2007).

Beyond this general consensus on high levels of awareness and low levels of concern, the understanding of climate change perceptions and climate friendly behavior presented in past literature is much less clear. There is little agreement about what are the most important influencers of climate change perceptions and climate friendly action and the ability to explain or predict differences in perceptions and action remains somewhat limited. For example, some studies suggest that knowledge about climate change is the key to understanding climate change

perceptions and climate friendly behavior (Bord et al., 2000). Others suggest that risk perceptions are critical (Leiserowitz, 2006). Still others suggest that values, economics, or a range of other factors are most important. Past research has identified a wide range of behavioral theories and constructs that shed light on what can influence climate change perceptions and behavior, but there is little agreement about which are most important and/or how the different factors fit together in people's thought and decision processes. For the purpose of this review, I have reviewed ten theories and constructs based on their prevalence in past studies and the strength of their ability to explain differences in climate change perceptions and related behaviors. These theories and constructs represent the state of knowledge my study results will complement.

Many of the studies described below apply a range of the following theories and constructs in their theoretical models and/or empirical analysis of climate change reduction behavior. However, I first describe each factor individually to explore its possible contribution to understanding the motives underlying actual climate change perceptions and reduction actions. Then, I review the key findings of studies that have attempted to integrate multiple theories and/or constructs using multivariate analyses.

1. Values

There are two primary approaches to understanding values that are relevant to my proposed study: general value systems and specific pro-environmental value systems. Multiple scholars have developed general value systems. However, most of these systems, even when developed independently, converge on four key value dimensions. The most common value system used in social psychology research was developed by Schwarz (1994). In this system, the four value dimensions and their corresponding values are: (1) openness to change, which includes hedonism, stimulation, and self direction; (2) self transcendence, which includes universalism and benevolence; (3) conservation, which includes conformity, tradition, and security; and (4) self enhancement which includes power, achievement, and hedonism. Many studies have shown that these value dimensions can be useful for understanding, predicting, and influencing people's beliefs and behaviors once an individual's primary value dimensions have been identified (Schwarz, 1994).

These value dimensions have been applied to the study of both general pro-environmental behavior and specific climate change reduction behavior. Most studies have found that self

transcendence values are correlated with greater pro-environmental values, identities, behavior intentions and behavior, while self enhancement values are associated with less pro-environmental ratings on these characteristics and actions (Poortinga et al., 2004; Schultz et al.et al.., 2005, Cordano et al.et al.., 2011; de Groot and Steg, 2010; Van der werff et al., 2013a; Klockner, 2013).

In a study of support for government policies to reduce climate change, Dietz et al. (2007) found that self transcendence, or altruism, and traditionalism had high total effects on climate change policy support, with altruism positively affecting support and traditionalism negatively affecting support. Using a similar value system, Leiserowitz (2006) found that values explained 34 percent of variance in policy support; egalitarian values had a strong positive relationship while individualist and hierarchical values had a moderate negative relationship. Kahan et al. (2011) found that people with egalitarian and communalist values (similar to Schwartz's self transcendence values) are more likely to believe that there is a scientific consensus that climate change is occurring and will have negative consequences than people with individualist values (similar to Schwartz's self enhancement values). Tikir and Lehmann (2010) also found that egalitarian values are associated with greater levels of climate friendly actions or intentions including intentions to use public transit, while hierarchical values were associated with lower intentions.

A second relevant approach to values is the study of specific pro-environmental values. Many studies of pro-environmental values focus on altruism, or behaving in ways that benefit others as well as or instead of one's self. For example, one common value system is based on three primary value types: self-interest (often called egocentrism), humanistic altruism (also called simply altruism), and biospheric altruism (also called biocentrism) (Dietz et al., 2005). In this system, people may act to benefit the environment based on all three value types. However self-interest motivated people will only act pro-environmentally when they also gain personal benefits and altruistically motivated people will only act pro-environmentally when it benefits other people. People with a high level of biospheric altruism, on the other hand, believe that all creatures have value beyond their usefulness to humans and are motivated to undertake pro-environmental actions to benefit non-human nature. Studies have found that people with high biospheric values are significantly more likely to engage in pro-environmental behavior (Dietz et al., 2005; Schultz et al., 2005; Clark et al., 2003; DeGroot and Steg, 2010). Studies that apply

this value system specifically to climate-friendly behavior have found similar results (Gifford et al., 2011). For example, Ven der werff et al. (2013) found that biospheric values are associated with energy conservation behaviors such as using a more fuel efficient driving style, consuming less meat, and taking shorter showers.

A second system for understanding and measuring environmental values is the New Ecological Paradigm (NEP) (Dunlap et al., 2000), which proposes that pro-environmental behavior is associated with a belief system or worldview that the earth is fragile and human actions have adverse effects on the planet. The NEP has been widely used as a measure of pro-environmental values and found to be correlated with pro-environmental behavioral intentions and behavior (Clark et al., 2003; Dunlap et al., 2000; Klockner, 2013). The NEP has also been used specifically to predict climate change reduction behavior. For example, multiple studies have found that found that higher environmental values, measured by the NEP, correlate with both willingness to support government policies and willingness to undertake personal action to reduce climate change (Lubell et al., 2007; Dietz et al., 2007). Kellstedt et al.(2008) and Poortinga et al. (2004) both found that people with higher NEP scores also showed greater concern for climate change. However, Poortinga et al. (2004) found that environmental values, explained *intention* to undertake action to reduce home and transportation related energy consumption, but that these values were not significant predictors of *actual* energy conservation behaviors.

Values are most frequently assessed as motives for behavioral intentions and actions as part of a larger model that includes other factors as well. Values are commonly included in the "Values-Beliefs-Norms" theory of behavior, which proposes that pro-environmental behavior is in large part influenced by people's values, which help them form a personal norm or feeling of responsibility towards an action, which then leads them to undertake pro-environmental behaviors (Gifford, 2011). Values are also used frequently as factor influencing attitudes, which in turn influence behavioral intentions through models like the Theory of Planned Behavior (Ajzen 1991; Gifford et al., 2011). Values are also often proposed as a precursor to environmental self identity, which in turn influences pro-environmental behaviors (Van der werff et al., 2013a). Multi-factor studies of climate change perceptions and climate-friendly behavior, including those that incorporate values, are described in more detail below.

Clearly, there is still much to be learned about the relationship between values and behavior as well as the importance of more general value dimensions and specific environmental values in governing climate change perceptions and related behavior. It seems especially important to understand if values have more influence on behavioral intentions than actual behavior and to understand if some pro-environmental and/or climate friendly behaviors are more likely to motivate some kinds of behaviors more than others. Nonetheless, they are likely an important factor in understanding what motivates perceptions of and actions to reduce climate change and they deserve further study.

2. Self identity

In psychology, identity is a person's "ideal self" or who one wants to be and how one wants others to see them (Howard, 2000; Gleason, 1983; Gecas, 1982; Epstein, 1973). Identity is believed to influence behavior through self esteem and self consistency. People's self esteem is maintained or increased when they perceive that they are acting in accordance with their "ideal self" or identity. Similarly, people are motivated to change their behavior if they feel there is an inconsistency between their actual behavior and their preferred identity (Gecas, 1982) or they feel that there is discrepancy between how they view themselves and how others view them (Stets and Biga, 2003). In addition, people will often interpret situations, new information, and feedback from others in ways that maintain self esteem and self consistency (Gecas, 1982).

Identity has been shown to influence environmental behavior. For example, Stets and Biga (2003) found that environmental identity, or how people see themselves in relation to nature, was the strongest predictor of past pro-environmental behavior and willingness to undertake environmental behaviors. Van der werff et al. (2013a) found that environmental self identity was an important predictor of a range of pro-environmental behaviors and intentions, including some climate friendly actions. They defined environmental self identity more simply as someone who sees his or herself as being environmentally friendly. They found that environmental self identity explained 11 percent of the variation in people's actual driving efficiency behavior. Self identity also explained 30 percent of intentions to save energy and 20 percent of intention to switch to green energy in the next year. In a separate study, Van der werff et al. (2013b) tested the role of environmental self identity in explaining personal norms to engage in pro-environmental behavior, which were in turn used to predict intention to use green

energy. They found that environmental self identity was correlated with both pro-environmental personal norms (0.67) and intention to buy green energy (0.47).

In most studies, identity is assessed with other factors such as values, social norms, and personal norms. For example, Van der werff et al. (2013a) found that environmental self identity was largely predicted by biospheric values, and that environmental self identity's influence on pro-environmental behavior intentions was mediated by personal norms (Van der werff et al., 2013b).

3. Attitudes

Attitudes can be defined as like-dislike evaluations of specific things including people, products, issues, situations, or behaviors. Attitudes are thought to influence behavior primarily through evaluations of the value (positive or negative) of the outcomes of a behavior and evaluations of the likelihood of those outcomes (Ajzen, 1991).

Several studies have assessed attitudes and climate change (Gifford et al., 2011; Klockner, 2013). Krosnick et al. (2006) found that people with negative attitudes about the consequences of climate change were significantly more likely to believe that climate change was a serious national issue, which in turn significantly predicted support for climate change reduction actions by government and businesses. Tjernstrom and Tietenberg (2008) found that negative attitudes towards the impacts of climate change were associated with lower national greenhouse gas emissions. Though this is not specifically a measure of individual behavior, it suggests that attitudes toward climate change may influence behaviors that cause greenhouse gas emissions. In an unpublished study, Dimond et al. (2007) found that attitudes toward climate change reduction behaviors were a significant predictor of willingness to act to undertake those behaviors.

Attitudes are most frequently included as a factor in understanding pro-environmental and climate friendly behavior in the Theory of Planned Behavior, or its predecessor, the Theory of Reasoned Action. In this theory, attitudes toward a behavior combine with social norms regarding that behavior, and perceived ability to undertake the behavior to explain behavioral intentions (Ajzen 1991). Multi-factor studies that incorporate attitudes are described in more detail below.

These studies suggest that attitudes towards climate change in general and attitudes toward climate change reduction behaviors specifically may be important in motivating climate change reduction actions. But, further study is needed to understand how attitudes motivate action on this issue and interact with other motivating factors.

4. Social Norms

Social norms are perceptions of what others believe are acceptable or preferable. There are two different types of social norms: norms of what we believe people usually do (descriptive norms) and norms of what we believe people should do (injunctive norms) (Kallgren et al., 2000). Multiple empirical studies have found that social norms are significant predictors of behavioral intentions (Ajzen 1991, 2001). However, studies have also found that norms have to be made salient, or brought to mind, for them to affect behavior (Kallgren et al., 2000). In a meta-analysis of studies of pro-environmental behavior, Klockner (2013) found that social norms were a key factor in explaining pro-environmental behavior. Social norms were a significant predictor of behavior intention as well as a significant predictor of personal norms, which in turn helped to explain behavioral intentions.

Few studies specifically assess American's perceptions of social norms or social pressures regarding action to reduce climate change or the effects of social norms on individual climate change reduction action. Many studies have shown that injunctive, or "ought to," norms can be important drivers of general pro-environmental behavior (Stern, 1992). However, descriptive norms, or what one believes people usually do, may influence behavior away from pro-environmental and climate change reduction actions. For example, in a study of U.K. residents, Lorenzoni et al. (2007) found that many people feel social pressure to engage in activities that create greenhouse gases such as driving to work, taking holidays to faraway places, and buying energy intensive appliances as ways of gaining social status and social acceptance. I suspect this social norm of consumption is equally true in the United States. One recent study by a national research firm found that a large majority of Americans (83 percent) do not feel pressure to change their lifestyle because others think it is bad for the planet (EcoAmerica, 2008). On the other hand, the same study found that 85 percent of Americans do not feel social pressure to actively avoid climate-friendly actions. In an unpublished study, Dimond et al.(2007) found that a sample of University of Montana undergraduates felt significant social pressure to take actions to reduce climate change (mean of 27 out 32) and social norms were a significant

predictor of willingness to undertake personal and political climate change reduction actions. In an organizational setting, Nilsson et al.. (2004), found that in both public and private sector organizations people felt relatively high normative pressures to take action to reduce climate change (3.96 and 3.75 out of 5 respectively) and norms were a significant predictor of support for four different climate change reduction policies. Welsch and Kuhling (2009) found that the behavior of important "referent individuals" a similar concept to social norms was a key factor explaining individuals decisions to install solar panels and buy organic food – more important even than environmental concern. However, referent group behavior was not an important factor in explaining individuals' decision to purchase green electricity credits. The author proposed that social norms, in the form of referent group behavior, is more important in predicting visible behaviors that other members of one's social network will notice (like solar panels and organic food) than for non-visible actions like purchasing green energy credits.

These studies suggest that social norms are an important element in understanding climate change perceptions and climate friendly behavior. However, more information is needed about how American's perceive social norms and expectations regarding climate change reduction and how this influences their behavior. In addition, more study is needed to understand if social norms and social networks influence some types of actions (like visible actions) more than others (like actions that will not be visible to one's social network).

5. Social Networks

Social networks are basically networks of people who communicate with each other and perceive themselves to be similar in some important way. This similarity could be based on having similar values, similar interests or activities, or similar experiences. Social networks can include personal networks of friends and family members, people who are perceived to share a similar social role or social status (Huckfeldt and Sprague, 1987), and social media networks, which are primarily internet based interactive information and communication channels like Twitter and Facebook. These different kinds of networks often overlap. For example people often communicate with friends and make friends using social media sites.

Social networks are important channels for information transmission (Huckfeldt and Sprague, 1987). However, social networks, especially those that include people we believe are similar to ourselves, can also be important for behavior change because they provide messengers

and contexts that we are more likely to accept (Gladwell, 2000). People are usually more inclined to believe and to be influenced by information gained through social networks rather than through impersonal sources such as the news media or political speeches (Schuett, 2011). This may be because they consider information gained from social networks to be less biased and more trustworthy than information from sources with an obvious vested interest like corporations or politicians. Furthermore, people are often more likely to seek information from people they know than from outside experts (Huckfeldt and Sprauge, 1991). The "messengers" in social networks are usually more likely to influence our behavior than are impersonal third parties. In many cases, social networks also provide situations that make people more open and receptive to new ideas, making them more likely to influence behavior choices (Gladwell, 2000).

Participation in social networks has been used to help explain pro-environmental behavior. For example, Schuett (2011) found that individuals are more likely to engage in pro-environmental behavior if they get information about related environmental issues from their social networks (e.g. friends, family, church groups) than if they get similar information from media sources. Tindall et al. (2002) used social network theory to understand why people participate in the environmental social movement. He found that people who have connections to more different people within a social network are generally more active in the environmental movement. He also found that "low cost" participation in the environmental movement, defined as actions that have lower economic, social, and personal costs, are primarily encouraged through the influence of less important acquaintances, while "higher cost" actions are more likely to require the influence of close friends or family members with whom one has "strong ties." In a study of beliefs and values about forest management, Tindall and Harshaw (2005) also found that social networks influence members' values, which in turn combine with the social norms of one's social network to influence behavior.

Jager et al. (1993) found that being a member of a social network interested in climate change is a significant predictor of actual behaviors to reduce climate change. In this study, a "social network interested in climate change" was assessed based on how often the individual engaged in conversations about climate change. This study tested the predictive ability of several models and found that being a member of a social network interested in climate change and having friends and relatives who insisted on following climate reduction "rules" were better predictors of climate change action than models including demographics or knowledge about

climate change. Robelia et al. (2011) found that people who participated in an online social network about climate change through Facebook learned about new climate friendly actions, felt more motivated to engage in those actions, and actually did increase the kinds of and frequency of their climate friendly actions. However, in a more recent study based in the U.S., Zahran et al. (2006) found that being a member of network interested in climate change was not a significant predictor of support for climate change reduction policies.

Other studies have found that friends play a strong role in influencing the adoption of behaviors that can reduce climate change. For example, Herring et al. (2007) found that 75 percent of their sample was influenced to install solar water heaters by friends who already had one. In addition, trust in sources of information about climate change – which might be related to gaining information from social networks --has been shown to be important predictor of climate change attitudes, concern, and action (Dietz et al., 2007; Krosnick, 2006). This further supports the idea that social networks may therefore be important as they provide a source of information that is more likely to be trusted.

6. Personal Norms

Personal norms are feelings of moral obligation to undertake particular actions. According to the norm activation theory, personal norms form based on awareness of the consequences of one's actions and belief in responsibility for those consequences (Harland et al., 1999).

Studies have found that personal norms influence climate change reduction actions. For example, Wall et al. (2007) found that personal norms were the strongest predictor of willingness to reduce car usage in a sample of British university students and staff. Similarly, Van der werff et al. (2013b) found that personal norms were highly correlated with intention to purchase green energy (0.47). Klockner and Mattheis (2004) found that personal norms were a significant predictor of actual decisions not to drive a personal vehicle in a model that also included social norms and car-driving habits. Studies have also found that awareness of the consequences of climate change, a theoretical precursor of personal norms, is a significant predictor of concern for climate change and willingness to act to reduce climate change (Krosnick et al., 2006).

These studies suggest that personal norms may be an important factor in motivating climate change reductions actions. However, more information is needed to understand

Americans' sense of personal norms towards climate change reduction and how personal norms influence climate change reduction action.

7. Knowledge

Knowledge of the causes of climate change should be an important factor in motivating climate change action for several reasons. First, it should increase people's belief in the human responsibility for climate change in general and their own responsibility in particular, which has been shown to increase likelihood of acting to reduce climate change (Krosnick et al., 2006). In addition, knowledge of the causes of climate change seems necessary for making good decisions about how to act to reduce climate change; if one does not know what causes climate change, it will be difficult to choose effective actions to reduce it. Similarly, knowledge of the causes of climate change should help people make accurate evaluations of the outcomes of acting on climate change, which should increase positive attitudes toward climate change reduction action. Attitudes, described in more detail above have been shown to be a key factor influencing behavior (Ajzen, 1991 and 2001; Ajzen and Fishbein 1980; Stutzman & Green, 1982). Several studies support the theory that greater knowledge of the causes of climate change increases willingness to act to reduce climate change. For example, Bord et al. (2000) and Fortner et al. (2000) found that knowledge and certainty of knowledge are key predictors of willingness to act to reduce climate change. On the other hand, Kellstedt et al. (2008) found that knowledge about climate change had a negative relationship with concern about climate change. They propose that those who know more about climate change, realize the magnitude of the problem, and feel less able to do anything about it.

Knowledge of climate change consequences may also be important in motivating climate change reduction action. This knowledge may activate values and norms of self-interest, altruism, and biocentrism, which may in turn motivate action. In addition, it may increase risk perceptions, which may also motivate mitigation action. Empirical studies support the idea that knowledge about the consequences of climate change increases concern for and willingness to act to reduce climate change (Krosnick, 2006; Sunblad et al., 2007; Dimond et al., 2007).

Finally, knowledge of specific solutions for climate change may be an important factor in motivating climate change action. Knowing what to do should increase people's action level simply because it makes action easier. Furthermore, knowledge of specific climate change reduction actions may increase action if it increases feelings of self efficacy and reduces feelings

of helplessness and denial. One recent study found that people who are informed about the solutions to climate change are significantly more willing to admit it is happening and more willing to take action to reduce it (NRDC, 2008, unpublished).

8. Risk perceptions

Studies of risk perception explore the level of personal or societal risk people perceive will result from a "risk object," which can be an issue, event, or situation. Behavioral studies tend to focus on individuals' risk perceptions rather than actual level of risk because perceived risk has been shown to be a much better predictor or willingness to act and actual action to reduce or mitigate risk (Zahran et al., 2006; Sjoberg, 1999). However, it is important to note that there is limited empirical support for the connection between high risk perceptions and action to reduce risk (Sjoberg, 1999).

Many studies have assessed risk perceptions of climate change and there is, therefore much to say about past studies in this area. Studies have found that people generally perceive a low to moderate level of personal risk from climate change and that it ranks well below other potentially risky issues (Nisbet and Meyers, 2007; Leiserowitz, 2006; Lorenzoni et al., 2005; Seacrest, 2000). Studies suggest that low levels of perceived risk of climate change may be explained by a number of factors including lack of personal experience with climate change and lack of strong imagery of its consequences, especially potentially personal consequences. For example, Leiserowitz (2006) found that people believe climate change is much more likely to have negative impacts on "people all over the world" and non-human nature (68 percent of sample) than on "me and my family" and their local community (13 percent of sample).

Lorenzoni et al. (2005) and Leiserowitz (2006) also found that both Americans and the British did not find climate change personally relevant and thought its consequences would be distant in both space and time. Weber (2006) also found that people lack high levels of perceived risk about climate change because they do not have personal experience with climate change consequences and because most climate change information focuses on long-term future consequences, is based on statistical information, and comes from impersonal third party sources. These findings fit with common risk perception biases in which people perceive lower than actual risk from events with which they have no personal experience and/or that lack dramatic and visible consequences. Interestingly, Whitmarsh (2009) found that people who have

personal experience with flooding believed to be caused by changing climate do not have higher risk perceptions of climate change than others who did not personally experience these floods. However, she also found that flood victims did not connect the flooding to climate change. This study also found that people who have suffered health impacts of air pollution are more likely to perceive climate change as risky, in part because they connect the issues of air pollution and climate change. These findings suggest that personal experience with the consequences of a risk object alone is not enough; instead people must also connect the personal consequences to the cause in order to feel a heightened sense of risk.

Other studies have found that values play an important role the formation of climate change risk perceptions. For example, Leiserowitz (2006) lends some support for the Cultural Theory basis of risk perceptions. Specifically, he found that people with egalitarian values were significantly more likely to have higher risk perceptions of climate change, while people with individualist and hierarchical values had lower perceptions of risk. Kahan et al. (2011) also found that people filter information and risk assessments based on their values. He found that people with egalitarian and communalist values believe that climate change is occurring, is human caused, and poses a significant risk compared with individuals who hold hierarchical and individualist values. Brody et al. (2008) found that the strongest predictors of perceived risk of climate change were social and attitudinal factors, while actual physical vulnerability such as proximity to rising oceans or floods were at best weak predictors of risk perception. In this study, feelings of self efficacy -- or ability to reduce climate change through personal action -- was the strongest predictor of climate change risk perception, followed by general environmental values, and being part of a social network interested in climate change.

Studies have also found that high risk perceptions result in greater likelihood of acting to reduce climate change. For example, Leiserowitz (2006) found that negative affect towards climate change was the strongest predictor of willingness to support climate change reduction policies, followed by egalitarian values. These findings are also supported by O'Connor et al. (1999) and Lubell et al. (2007) who found that risk perceptions are an important predictor of willingness to take personal action to reduce climate change and willingness to support government climate change reduction policies. Similarly, Viscusi and Zeckhouser (2006) found that people with higher risk perceptions had a greater willingness to pay to reduce climate change.

This connection between risk perceptions and action may help explain why people have taken so little action to reduce climate change and its negative impacts. At this point, most Americans perceive little risk from climate change, therefore, they are taking little action to reduce it. It would be interesting to know if the reverse is true, do people who have taken action to reduce climate change feel that it is highly risky? Was this an important motivation in their decision to act? Studies of climate change risk perceptions also illustrate the importance of understanding how different factors interact in influencing climate change perceptions and action. These studies suggest that a wide range of factors influence risk perceptions including affect, values, self efficacy, and social norms.

9. Personal relevance and involvement

Personal relevance, or a lack thereof, has been proposed as an important contributor to low levels of concern and risk about climate change and as a key barrier to climate change action in many studies (Lorenzoni et al., 2007; Leiserowitz, 2006; Lorenzoni et al., 2006; Weber, 2006). However, there have been few if any studies that have attempted to assess directly if people believe that climate change is personally relevant and if this in turn influences their likelihood of engaging in climate friendly behaviors. In addition, the concept of personal relevance is not well defined in theories of social psychology, risk perception, economics, or sociology. Sherif et al. (1973) defined personal relevance as resulting from the connection of an issue, activity, or object to one's core values, sense of identity or self, long-term goals or personal projects, short-term goals, or social acceptance (Sherif et al., 1973). More recently, the theory of involvement, which has been used widely to understand consumer behavior, also uses the concept of personal relevance. Involvement theory proposes that when an issue is personally relevant, people become "involved" in the issue, which means they are motivated to act on the issue, they seek and process information about the issue more carefully, and they make more careful decisions about the issue (Petty and Cacciopo, 1990). In addition, people process more personally relevant information through "central route processing", using more deliberate, time consuming, rational, and involved thinking. On the other hand, when issues have low personal relevance people tend to have lower concern and lower motivation to act. Low relevance issues are processed through the "peripheral route" meaning that less time is spent, emotion or affect is more important, and decision making heuristics -- or short cuts -- are used more often. Based on

this theory, personal relevance should motivate people to change behaviors to reduce climate change, and to form climate change related attitudes, values, and personal norms, because they are motivated to seek out and carefully process climate change related information through a more central route, deliberative thought process.

I am unaware of any studies that have assessed the roles of personal relevance and involvement in climate change perceptions and action. However, I think these relationships deserve further study based on the role they might play in climate friendly behavior.

10. Economics and behavioral economics

The basic economic model of behavior suggests people make decisions to maximize benefits and minimize costs; this is also referred to as rational choice theory and utility maximization theory. Some studies of climate change related behavior suggest that it follows a traditional economic model in that people are generally less willing to act to reduce climate change when they believe it will have significant costs. For example, studies have shown that people who believe that climate change action will hurt the economy, reduce jobs for people like themselves, or limit personal freedoms are less likely to support climate change action (O'Connor et al., 2002). Alternatively, people who believe that behavior changes will not have significant costs are more willing to act. For example, Arkesteijn and Oerlemans (2005) found that people who believed there was a smaller price difference between green electricity and regular electricity were significantly more likely to sign up for a green electricity program with their utility. Studies have also found that people who purchase residential solar panels are more likely than people who did not buy solar panels to believe that the purchase was a good economic decision including believing that solar panels are not that expensive, that they will help offset rising future costs of electricity, and that they will pay themselves back (Labay and Kinnear, 1981). Similarly, studies have found that saving money and reducing electricity bills was a main decision driver for 60 to 80 percent of people who purchased additional home insulation, a programmable thermostat, an energy efficient condensing boiler, and compact florescent light bulbs (Herring et al., 2007).

Interestingly, few studies have assessed how the benefits of climate change action including cost savings (such as from energy efficiency) or increased job opportunities (such as from new green jobs) influence willingness to act to reduce climate change. This issue is ripe for

study as Americans are beginning to see the economic opportunity in fighting climate change. One recent study found that 60 percent of Americans believe that combating climate change will have a positive impact on economic growth compared to doing nothing (The Climate Group, 2008). Interestingly, the same study found that only 48 percent of Americans believe that they can personally save money by combating climate change. This suggests that people are not aware of the potential personal savings or the climate change reduction impacts of energy efficiency actions.

Behavioral economics assesses why and how the rational actor economic model breaks down. For example, when weighing future costs and benefits, people often can not envision the future beyond 15-20 years. As a result they tend to irrationally discount future costs or benefits that will come beyond that timeframe (Lowenstein and Thaler, 1989). This could be very relevant to climate change behavior because most of the consequences, or costs, of climate change and the benefits of taking action to reduce those costs occur well beyond a 15 year time horizon. In addition, information about the timing of emissions reductions and future impacts of climate change is often given for the far distance future, such as 2050 or 2100, so people may discount it entirely. Behavioral economics has also found that people prefer to avoid costs rather than obtain benefits, even if their net utility would be higher if they paid some costs to gain even more benefits (Gowdy, 2008; Khaneman, 2003). Most climate change reduction action requires some immediate costs in exchange for some future benefits. Therefore, it may be difficult for people to rationalize taking action (Gowdy, 2008). In addition, people have a status quo bias; they prefer to maintain things as they are even if a new way would bring them a higher utility (Gowdy, 2008; Khaneman, 2003). Many climate change reduction actions will bring net benefits. For example, increasing energy and fuel efficiency will reduce electricity and transportation costs. However, the status quo bias might make it difficult for people to take actions that require substantial change, even if it is change for the better (Gowdy, 2008). People also have a "single action bias." They tend to feel they have done their bit after taking a single action, however great or small (Lorenzoni et al., 2007). This often leads people to take some small action and then erase an issue from their list of concerns (Lorenzoni et al., 2007). Behavioral economists have also found that people tend to filter the information they assimilate or believe and the information they use in their decision making based on pre-existing beliefs (Khanaman, 2011).

This may help explain why many people interpret and act on the same information about climate change quite differently (Kahan et al, 2011).

Psychological research has also found that it can be problematic to encourage pro-environmental behavior through financial incentives in an attempt to increase the benefits of these actions and trigger people's "utility maximization" decision making process. Studies have shown that people only engage in the pro-environmental behavior while the incentive lasts rather than encouraging long-term behavior change (DeYoung, 1993; DeYoung 2000). In addition, studies have shown that financial incentives discourage the formation of internal motives (such as personal norms or moral obligations) to engage in pro-environmental actions (DeYoung 2000), which have been found to be important for long-term behavior change (DeGroot and Steg, 2010).

11. Self efficacy and collective action

Climate change, like many environmental issues is a collective action or commons problem: the costs of acting to reduce it are born by the individual, but the benefits of that action are shared by all (Lubell et al., 2007). In other words, there is a great motivation to "free ride" or share in the benefits of others' action without taking on any of the costs of behavior change. Often, people choose to do nothing unless they feel that others are also acting to avoid being "taken" by free-riders. Collective action problems can also reduce motivation to take individual action because the costs are obvious and immediate while the benefits are unclear and distant. In addition, issues like climate change that are massive and global can discourage action because people feel their small individual action cannot possibly make a difference to such a large problem.

The collective interest model attempts to explain what factors increase individuals' willingness to take action on a collective action issues (Finkel et al., 1989). This model suggests that people are generally more willing to take action on collective action problems when they believe the costs of inaction or the risks associated with the issue are high, the individual and group benefits of action are high, the chances of individual and group success are high, and the personal costs of action are low. Several studies suggest that people are not taking action on climate change because they have low perceptions of the risks of inaction and low belief in individual and group ability to succeed (Lieserowitz, 2005; Lorenzoni et al., 2007).

Self efficacy is defined as individuals' perceptions that they can successfully carry out courses of action required to deal with prospective situations (Bandura, 1982). It has been shown to be a critical factor in people's decisions to participate in collective action issues (Lubell et al., 2007). For example, self efficacy has been found to be a critical factor in pro-environmental behavior generally and in climate change behavior in particular. For example Lubell et al. (2007) found that perceived self efficacy was a significant predictor of policy support and political and personal action to reduce climate change. Self efficacy also appears to be important in people's willingness to admit a problem is serious enough to require action (Kellstedt et al., 2008; Brody et al., 2008).

These studies suggest that how people perceive the collective and personal costs and benefits of climate change action and how they perceive their own personal efficacy on the issue could be important factors influencing decisions to take climate change reduction action. However, it would be beneficial to understand more about how these beliefs develop and how they interact with other factors that influence climate change perceptions and action.

12. Past Behavior and Habit

Habit is defined as a behavior script that mediates between situational cues about behaviors, psychological influences on behavior (such as attitudes, beliefs, norms) and actual behavioral patterns. They are usually routines or often repeated actions that are not under the control of conscious decision making, and therefore, not highly influenced by deliberative weighing of attitudes, values, and norms (Klockner and Mattheis, 2004).

In most cases, undertaking climate change reduction actions requires a change from current behavior. People are in the habit of driving their personal vehicles, not turning off the lights, and keeping their thermostat set at a certain temperature. These habitual actions may make it difficult for people to change their behavior to reduce climate change. Even many larger decisions may also be governed by habit. For example, people may be "in the habit" of buying SUVs without considering other more fuel efficient options that would still meet their needs.

Empirical studies have found that habit influences some climate impacting behaviors like energy use and transportation choices. Bamberg and Schmidt (2003) found that habit is an important predictor of actual car usage among a sample of German students. In a separate study, however, Bamberg et al. (2003) found that past habit only explains travel mode choice when

conditions remain stable, if conditions change (in this case due to intervention of providing a free bus ticket) past behavior does not explain future behavior. Klockner and Mattheis (2004) found that habit strength was a significant factor in travel mode decisions among college students in Germany. For those students with strong car driving habits, personal and social norms did not influence travel mode decisions. However, people with weak travel mode habits were influenced by personal norms to drive personal vehicles less. In a meta-analysis of factors influencing pro-environmental behavior including climate-friendly behaviors, Klockner (2013) found that habit was one of three primary factors explaining behavior choices in a model containing habit, behavioral intentions, and perceived behavioral control.

Past behavior, even when not "habitual," may also influence behavior decisions. Past behavior has been shown to influence values, attitudes, and identity which can influence decisions to favor repeating past actions (Dietz et al., 2005; Hitlin et al., 2004, Howard, 2000). For example, Arkesteijn and Oerlemans (2005) found that past pro-environmental behavior was a significant predictor of individual's actual purchase of green energy. Welsch and Kuhling (2009) also found that past behavior was an important predictor of purchasing organic food. However, they found it was not as important in predicting more major decisions like purchasing solar panels and purchasing green energy credits. This supports the idea that habit may be most important in smaller, less important decisions.

These studies suggest that the impact of habit on climate change reduction behaviors is mixed and not well understood. Further, there has been little analysis of how past behavior influences attitudes, values and other beliefs that may guide future behavior. However, based on the important role habit and past behavior have on behavior in other contexts, the influence of habit and past behavior on climate change related actions deserves further study.

13. Results of multi-factor studies

Many studies of climate change perceptions and responses use operational models that assess the role of multiple theories and constructs at the same time. Several conclusions can be made about these multi-factor studies. First, they all follow the psychometric research tradition of using survey-based data and statistical analyses like regression or structural equation modeling (SEM) to assess the relationships between different variables.

Second, the consistency of findings between the studies is limited. This is partly because they include different sets of variables. As illustrated in Table 2.1 below, over 15 different independent variables have been used to predict beliefs about climate change and climate change reduction actions or behavioral intentions. Variables assessed range from values and attitudes, to political beliefs and demographic factors, to knowledge of and concern about climate change. Another problem with summarizing the findings of previous research is that different studies often look at different dependent variables. Some assess individual energy choices, some transportation choices, and many assess policy support rather than individual behaviors.

Even among studies that assess similar dependent variables it can be difficult to make conclusions about motives for climate friendly actions because the studies use different predicting variables. For example, Van der werff et al. (2013), Welsch and Kuhling (2009), and O'Connor et al.et al.. (2002) all assessed individual's decisions to use green energy sources. However, each study considered different independent variables. Van der werff et al. (2013a) looked at the role of environmental values and environmental self-identity in predicting this action; Welsch and Kuhling (2009) looked at the role of attitudes towards the behavior and behavior of referent groups; and O'Connor et al. (2002) looked at beliefs about climate change, environmental and economic values, and demographic variables. Each study found that the factors they considered helped to predict individuals' choices to purchase green energy sources, but it is not possible to assess the relative value of these different factors across studies.

However, even when similar dependent variables are included, studies often find that different variables are significant predictors of and explain a greater proportion of the variance in climate change perceptions and action. Based on the studies reviewed in Table 2.1 below, only two variables consistently explain a significant amount of variance: generally pro-environmental and/or egalitarian values, and accurate knowledge of the causes of climate change.

A final conclusion about previous studies is that they do not predict a large amount of variance in individual's climate friendly beliefs and actions. Only 2 of 15 studies presented below explain more than half of the variance in climate change perceptions and action and many explain less than 25 percent.

The table below summarizes these studies including the dependent variable, or thing being predicted; the key independent or predictor variables; the variables that are found to be

significant predictors; amount of variance explained by the full model, and the analysis methods used.

Table 2.1 Summary of Multi-Factor Studies of Climate Change Perceptions and Action

Author, Date	Dependent variable	Independent variables	Most important significant predictors[1]	Measure of fit	Analysis method
Van der weff, et al., 2013	Intention to switch to green energy	• Biospheric values • Environmental self identity	• Biospheric values (+) • Environmental self identity (+)	.10 by values (R2) .20 by Env. Self identity (R2)	OLS
Kahan et al., 2011	Belief in scientific consensus that CC is happening and is human caused; Belief an individual is an expert on CC	• Egalitarian/communalism vs. hierarchical/individualist values • Demographic variables • Religious orientation • Political orientation	• Egalitarian/communalism values (+) • Hierarchical/individualist values (-) • Political orientation (conservative -)	Belief scientific consensus supports global warming occurring, and caused by humans based on value type: Egalitarian values holders: 78%, 68% respectively. Hierarchical/individual values holders: 19%, 12% respectively	Frequency analysis
DeGroot and	Purchasing a fuel	• Environmental values (biospheric,	• Biospheric values (+)	0.13 (adj R2)	Hierarchical Ordinary

[1] Most important of significant predictors is based on higher correlation coefficients or marginal effects depending on analysis method; they are listed in descending order of importance. Only the most important significant variables are listed. Direction of relationship is shown in parentheses: (+) shows a positive relationship, (-) shows a negative relationship

Author, Date	Dependent variable	Independent variables	Most important significant predictors[1]	Measure of fit	Analysis method
Steg, 2010	efficient, low emissions vehicle	altruistic, egoistic) • Types of motivation (internal self motivated vs. external vs. none)			Least Squares (OLS) regression
Tikir and Lehman, 2010	Intention to use public transportation	• Attitudes towards public transportation • Individualist, hierarchical, egalitarian, fatalist values •	• Positive Attitudes (+) • Supportive social norms (+) • Individualist and egalitarian values explained attitudes and norms (+)	0.72 variance, CFI .981	SEM/ path analysis
Welsch and Kuhling, 2009	Installing solar panels	• Demographics • Behavior of referent groups • Home ownership vs. renting • Attitudes towards energy issues	• Positive Attitudes (+) • Behavior of referent groups (+)	0.2-0.29 (solar panels)	Probit regression
	Purchasing green electricity	• Same as above	• Positive Attitudes (+)	0.38-0.47 (green electricity) (pseudo R2)	
Kellstedt et al., 2008	Concern about CC[2]	• Political Ideology • Attendance of religious services • Environmental values • Perceived level of Knowledge about CC • self efficacy	• Environmental values (+) • Self Efficacy (+)	0.427 (R^2)	OLS

[2] Climate Change is abbreviated as CC in this table.

Author, Date	Dependent variable	Independent variables	Most important significant predictors[1]	Measure of fit	Analysis method
		• Trust in media • Trust in experts • Trust in science			
Tjernstrom & Tietenberg, 2008	CC risk perceptions	• Knowledge of CC causes • Support for government intervention • Affinity with global community • Valuing present over future • Political party • Religion • Demographics	• Knowledge of CC causes (+) • Affinity with global community (+) • Valuing present over future (-)	0.122 (pseudo R^2)	Probit regression
Lieserowitz, 2006	CC risk perceptions	• Negative affect about CC • CC naysayer/ unbeliever • CC alarmist • Cultural theory values (egalitarian, hierarchical, individualism, fatalism) • Conservative ideology • Environmental group membership • Demographics	• Negative affect (+) • CC naysayer (-) • Member of environmental group (+) • Egalitarian values (+)	0.47 (R^2)	OLS regression
	Policy support	• Same as above	• Negative affect (+) • CC naysayer (-) • Egalitarian values (+)	0.44 (R^2)	OLS regression

Author, Date	Dependent variable	Independent variables	Most important significant predictors[1]	Measure of fit	Analysis method
			• Conservative ideology (-)		
Krosnick et al., 2006	Negative attitudes towards CC	Likelihood of change in number of and evaluation of the consequences of: • Hurricanes and tornados • Sea level • Food shortages • Animal species • Water shortages • Plant species Demographics Political ideology Education	• Sea level (+) • Food shortages (+) • Animal species (+) • Education (+)	0.28 (R^2)	OLS regression
	Concern about CC (measured as judgment of "national seriousness")	• Attitudes towards CC • Belief in existence • Certainty of existence • Human responsibility • Policy effectiveness • All possible interactions	• Negative attitudes towards CC (+) • Belief in existence (+) • Certainty of existence (+) • 5 way interaction (+)	0.23 (R^2)	OLS Regression
	Policy support	• Concern/ national seriousness • Demographics • Political ideology	• Concern/ national seriousness (+) • Age (-) • Political ideology (+)	0.09 (R^2)	OLS regression
Zahran et al., 2006	Policy support	• Environmental values • Risk perception of CC	• Risk perceptions (+) • Self efficacy (+)	0.419 (R^2)	OLS regression

Author, Date	Dependent variable	Independent variables	Most important significant predictors[1]	Measure of fit	Analysis method
		• Self efficacy • Knowledge of CC causes • Member of network interested in CC • Actual risk/ natural hazards • Demographics	• Environmental values (+) • Knowledge of CC causes (+)		
Dietz et al., 2007	Policy support	• Political ideology • Environmental values • Schwarz-based general values • Materialist and post-materialist values • Future orientation • Trust in environmental groups • Trust in government • Trust in industry • Awareness of consequences • Perceived knowledge of CC • Personal norms	• Trust in industry (-) • Trust in environmental groups(+) • Age (+) • Caucasian (-)	0.72 (MR^2)	SEM
O'Connor et al., 2002	Policy support	• Knowledge of causes of CC • Belief CC is likely • Belief in bad consequences • Economics/job insecurity • Valuing economy and personal well	• Valuing economy/personal well being over environment (-) • Education (+) • Party ideology (democrat) (+) • Knowledge of causes (+)	.31 (R^2)	OLS regression

Author, Date	Dependent variable	Independent variables	Most important significant predictors[1]	Measure of fit	Analysis method
		being over environment • Party ideology (democrat) • Demographics	• Bad consequences (+)		
	Buy green energy	Same as above	• Valuing economy/personal well being over environment (-) • Education (+) • Bad consequences (+)	0.19 (R^2)	OLS regression
	Buy green products	Same as above	• Valuing economy/personal well being over environment (-) • Education (+) • Knowledge of causes (+) • Bad consequences (+)	0.14 (R^2)	OLS regression
	Suffer discomfort	Same as above	• Knowledge of causes (+) • Bad consequences (+)	0.16(R^2)	OLS regression
	Drive less	Same as above	• Lost job (+) • Income (-) • Education (+) • Knowledge of causes (+) • Bad consequences (+)	0.18 (R^2)	OLS regression
Heath and Gifford, 2006	General intent to act to mitigate CC	• Perceived knowledge of causes • Support for free market	• Self efficacy (+) (by far most impt.) • Environmental values (+)	.53 (R^2)	OLS regression

Author, Date	Dependent variable	Independent variables	Most important significant predictors[1]	Measure of fit	Analysis method
		• Environmental values • Belief in occurrence • Belief in human cause • Belief in negative consequences • Self efficacy • Demographics	• Belief in occurrence (+) • Support free market (-)		
Bord et al., 2000	Policy support	• Knowledge of causes • Personal and social risk perceptions • Environmental values • Belief pollution is bad	• Knowledge of causes (+) • Environmental values (+) • Belief pollution is bad (+) • High societal risks (+)	0.28 (R^2)	OLS regression
	Individual action (composite of drive less, weatherize home, buy energy efficient appliances, buy fuel efficient vehicle, adjust thermostat	• Same as above	• Knowledge of causes (+) • High societal risks (+) • Environmental values (+) • Belief pollution is bad (+)	0.17 (R^2)	OLS regression
Jager et al., 1993	Actual actions to reduce climate change	Knowledge model • Knowledge about climate change • Concern about climate change	Knowledge model • Education • Concern	23.9 (chi squared)[3]	Logit regression

[3] Chi-squared is a measure of the significance of the total model, not a measure of the amount of variance explained.

Author, Date	Dependent variable	Independent variables	Most important significant predictors[1]	Measure of fit	Analysis method
		• Education Socio-cultural model • Friends and family insist on climate change reduction "rules" • Member of a social network interested in climate change • Interest in politics	Socio-cultural model • Social network • Insisting on rules • Interest in politics	80.6 (chi-squared)	Logit regression

Limitations of past research

The research described above provides a useful foundation for understanding climate change reduction behavior. However, it also has significant limitations. For example, most past research has focused on behavior intention, or willingness to act, instead of actual action. Many studies have shown that there is a considerable gap between intention and actual behavior (Kollmus and Agyeman, 2002). In addition, studies of how some of the theories and constructs described above influence climate friendly behavior specifically have found that the influence on intention vs. action is not the same (Poortinga et al., 2004). Therefore, studies of factors that explain willingness to act may not apply directly to understanding actual action. Since there is a need to motivate actual action, not just willingness to act, much past research may not provide the necessary information.

Another limitation of past research is the lack of interdisciplinary approaches and holistic assessments in understanding climate change perceptions and action. For example, many studies look primarily at the role of risk perceptions, behavioral economics, or knowledge, without trying to understand how different factors interact in people's thought processes about climate change.

Furthermore, most past studies apply theories that have been developed and tested on other kinds of behavior, to the issue of climate change. This does not mean they will not be useful. However, it would be beneficial to explore how they relate to climate change behavior and how they may need to be assessed or applied differently for this issue. Climate change may be significantly different from other issues that have been studied in social psychology, sociology, economics, consumer behavior, and risk perception. For example, climate change is global and intergenerational. It is also invisible, one cannot see climate change pollution and it operates on such a long time scale that most individuals cannot see it happening. Furthermore, both climate and behaviors that produce greenhouse gas emissions are ubiquitous; they impact virtually everyone, everywhere, all the time. As a result, deciding to take action to reduce climate change may be fundamentally different from most other consumer decisions and even many other altruistic or pro-environmental behaviors. Therefore, these previous studies may not be incorporating the right explanatory factors and/or may need to reframe them to understand the unique nature of climate change perceptions and action.

In addition, most research on this topic has used psychometric, survey based research. Psychometrics requires the development of an *a priori* operational model explaining perceptions or behavior (Anderson et al., 1983) and it assumes that human thought processes and behavior can be assessed using survey questions and numerical measurements (Anderson et al., 1983). This approach can be very useful for understanding similarities and differences across a large number of people, for assessing how many people fall into pre-determined categories, for testing the explanatory power of pre-determined models of behavior, and for developing inferences about larger populations (Babie, 2006). However, psychometrics and survey research also have some limitations.

First, it is difficult to know what factors to include and what models to test, especially when researching issues like climate change behavior about which existing knowledge is somewhat fragmented and contradictory. Similarly, surveys only allow respondents to consider and respond to the questions and issues that the researcher believes are important, which are generally framed by specific theories or disciplines. In other words, surveys tend to privilege the researcher's understanding of and beliefs about the issue being studied without exploring what the issue means to respondents and whether or not critical factors that actually guide respondents' behavior are missing (Patterson and Williams, 2002). Therefore, it is difficult to know if factors used in past surveys of climate change behavior, such as risk perceptions or values, are truly important motivators of climate change reduction action or if they only appear to explain action in those samples because respondents were forced to consider them by the survey questions. Additionally, there is no way to know what other motivating factors that might be equally or more important are missing from previous models entirely.

Surveys also provide a limited understanding of context, including how different factors interact in people's thought processes and how situational factors impact thoughts and decisions. As a result, surveys do not provide an in-depth understanding of how people think about climate change, how different motivational factors interact in people's thought and decision making processes, and how situational factors influence their thoughts and decisions. Studies that test integrative models of different factors that may influence climate change perceptions and action do provide an important perspective on how different factors interact. However, they would benefit from "ground-truthing" through in-depth discussions with people about their actual thought and decision making process.

These problems with a survey-based approach may be reflected in the limited explanatory power of most models used in past climate change behavior research and the disagreement between different studies. Most studies of climate change behavior explain less than half of the variance in respondents' beliefs and/or willingness to act and many explain less than 25 percent of variance. This leads one to wonder what explains the majority of respondents' beliefs and actions. Does this mean that important factors are missing from previous studies? If so, what are they? While, there is always "random" variation that cannot be explained no matter how complete the model being tested, it may be possible to understand more about what influences climate change perceptions and beliefs by coming at this question using a different methodological approach.

In addition, there is considerable disagreement between studies on the relative importance of different factors. For example, some studies have found that greater knowledge about climate change is the most important factor explaining willingness to act to reduce climate change (Bord et al., 2000). While others have found it is much less important than other factors (Dietz et al., 2007; Zahran et al., 2006, Heath and Gifford, 2006) or that greater knowledge actually reduces willingness to act (Kellstedt et al.. 2008). Is this disagreement the result of actual differences in respondents? Do they represent differences in question wording or interpretation? Or, is it a result of including other factors in the models being tested? Again, it is difficult to know based solely on survey research.

Past studies provide a good base of knowledge about climate change perceptions and action. However, due to the focus on behavioral intention instead of actual behavior, the reliance on survey research, and the tendency to apply existing theoretical tools to a potentially "new" problem, we still lack a holistic understanding of how people think about climate change and what motivates decisions to take action to reduce it.

CHAPTER 3: RESEARCH METHODS

Overall Approach

Previous studies have approached climate friendly behavior from a wide range of theoretical backgrounds and found that many theories and constructs may be useful in explaining people's beliefs about and responses to climate change. Most of these studies have focused on only one theoretical approach and have not sought to explore how multiple theories or different conceptual constructs may interact in the context of individuals' actual thought and decision making processes. Much good work has already been done. However, based on my assessment of gaps in previous research, which are described in detail in the Literature Review chapter, I felt that a new approach would be useful.

My primary research goals were to gain a holistic understanding of what motivates individual's to engage in climate friendly actions (or not), how people think about climate change, and how they decide whether or not to take action to reduce it. To accomplish this goal, and fill the gaps indentified in previous research, I undertook this study using an qualitative research approach and semi-structured interviews. This approach allowed me to gain an in-depth understanding of people's thoughts and decision processes and gain a more complete understanding of what motivates people to take different behaviors and how different motivating factors interact in an individual's thought processes.

In this chapter, I describe the research methods I used in this study including sampling, data collection, and data analysis.

Sample and Sampling Plan

Study Population

My research questions could be relevant for the overall population of Americans. However, I decided to limit my study population to a single American community for several reasons. First, I was interested in the possible role of social networks in motivating climate friendly actions. Limiting my study to a single community made it easier for the influences of social networks, especially networks based on physical communities, to appear if relevant. In addition, limiting my sample to a single community allowed me to limit the range of structural

opportunities interviewees would have for using alternative forms of transportation and energy. For example, it might not be useful to compare the transportation decision processes of someone living in a large metropolitan area with extensive mass transit, walking, and or biking opportunities, and structural incentives for using them like congested roads and expensive parking, to someone living in a small town with little or no alternative transportation options. Their decisions would be based on such different contexts, that comparison between their motives might not be that useful. However, because people's choice about where to live can be a reflection of their choices about transportation and energy use, I also thought it was important to include people who live in town and in the suburbs of the same overall community.

I chose to focus my study on Missoula, MT. This community provides a useful population for study for several reasons. First, it is a relatively liberal community but it is located in a relatively conservative state. So I hoped it would provide a good range of different political views and beliefs about climate change. Second, it has good mass transit and opportunities to walk and bike for a non-metropolitan area, so it interviewees can choose to use those alternatives if they care to. Finally, it was possible to develop scenarios for local impacts of climate change based on local climate modeling and to link those impacts to things that might be personally relevant for residents. Specifically, Missoula is a natural amenity-based community, in which many residents have chosen to live to engage in excellent outdoor recreation opportunities. Climate models have been developed for this area, which suggest that these recreational opportunities will be significantly impacted. In addition, conditions similar to the future predictions of climate change impacts have occurred in recent years, so it was possible to discuss these future impacts with interviewees in a less theoretical way. This was important for my hope to understand if making climate change more personally relevant influences an individual's decisions to engage in climate friendly behavior.

Sampling Plan

I developed my sampling plan to obtain a sample representing different types of personal energy and transportation actions and different beliefs about climate change. The sample did not attempt to represent the population in the statistical sense but instead to provide "representative types" that reflect the range of key beliefs and characteristics of my population of interest (Patterson and Williams, 2002).

To accomplish this representativeness, I sought out people who fell at different points along several continuums of characteristics that were important for my study and provided diversity of overall beliefs and demo- and psycho-graphic characteristics. These continuums included different levels of climate friendly action, different types of climate change reduction action, political beliefs, lifestage, urban, suburban, and rural residence, and other key demographic and psychographic characteristics. Figure 3.1 below summarizes these different continuums.

I followed a purposive sampling strategy in which people were included in the study because they provided combinations of characteristics that created an overall sample that represented the range of different characteristics important to my study. Purposive sampling differs from random sampling because it does not attempt to provide a random snapshot of the population of interest. Instead it picks people specifically to provide a range of different important characteristics or types. Purposive sampling also differs from "snowball" sampling because people are sampled purposively to reflect a range of important characteristics rather than simply because a previous interviewee recommended them. The specifics of how I recruited my interviewees are described in more detail below in the "Obtaining the Sample" section.

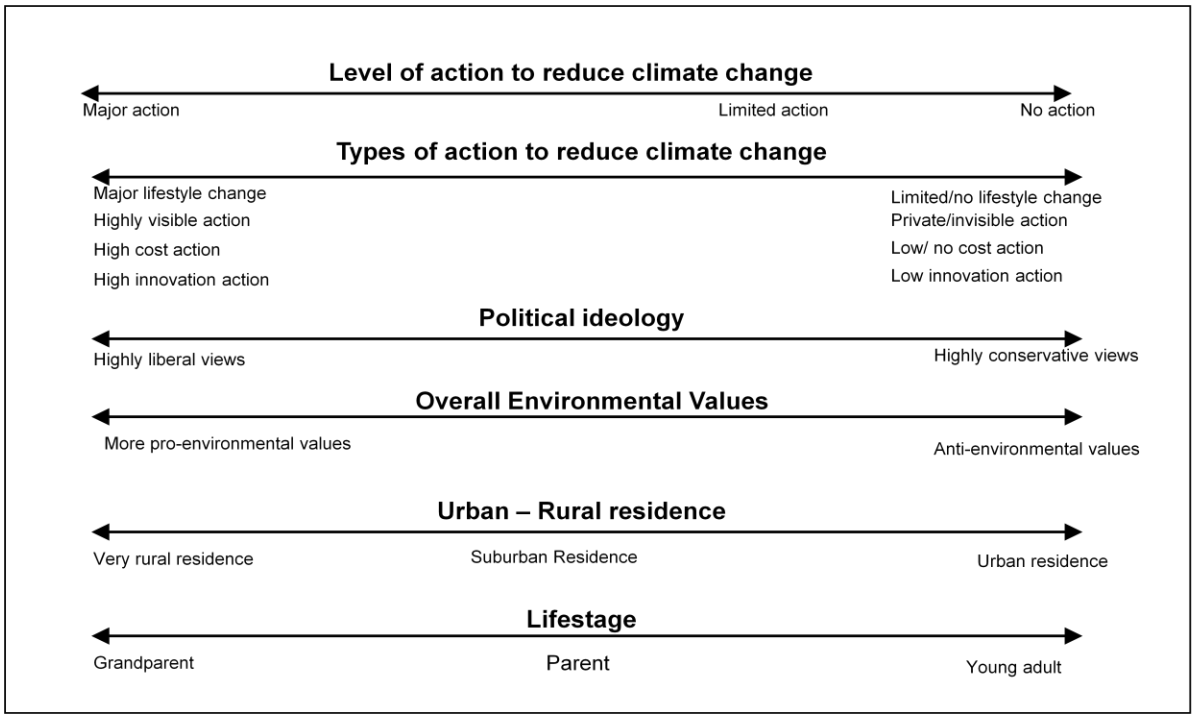

Figure 3.1 *Continuums of key characteristics that guided sampling*

My primary sampling focus was to find people who had engaged in different levels and types of climate friendly actions. Unlike the vast majority of previous studies, I focused on understanding people's actions, rather than their behavioral intentions. I focused on decisions and actions in the arenas of home energy use and transportation because these two categories cover the large majority of the behaviors through which individuals contribute to and could reduce their contribution to climate change. Within these categories, climate change reduction actions included personal actions such as energy conservation, choosing products based on their energy or climate impacts, and using alternative energy sources. It also included social action such as engaging in social networks or persuasive conversations about climate change and/or engaging in political lobbying or activism.

Based on this focus on behavior, I first sought people who fell along a continuum of level of climate friendly actions. On one end of the continuum, this included people who had engaged in climate friendly actions that required making major life changes or financial commitments such as living primarily without a car or building a zero-emission home. In the middle of the continuum, I sampled people who had taken smaller actions such as reducing their thermostat or installing energy efficient light bulbs. At the other extreme, I included people who had taken little or no actions that reduced their overall carbon footprint.

I also sought people who fell on a continuum of different types of actions that may reduce climate change. This included high cost actions, such as buying or building a carbon neutral home or buying a hybrid vehicle, and low cost actions, such as reducing vehicle use by biking and/or using mass transit and reducing home energy consumption. This allowed for assessing possible differences in motivation behind higher and lower cost actions.

Actions that required different levels of lifestyle change were also included. For example, living completely off the grid represents relatively extreme level of lifestyle change, switching from a personal vehicle to mass transit requires a high level of lifestyle change, while buying more efficient appliances requires relatively little lifestyle change. This helped me assess if actions that require significant lifestyle changes seem to be motivated by different kinds of factors and are undertaken by different kinds of people than those that require limited lifestyle change.

I also sought a sample that represented continuums of different psychographic and demographic characteristics that I thought could be relevant for understanding personal energy

and transportation decisions and/or beliefs about climate change. These included different value types, lifestages, and political beliefs. I actively sought out people with more and less pro-environmental beliefs, different political beliefs and party affiliations, and people from a range of life stages including college students, young singles, parents, and grandparents.

The diversity of my actual sample across these continuums and other factors that appeared as important during the interviews is discussed in the beginning of the Nomethetic Analysis chapter.

Sample Size

The size of my sample was based on several factors. First, it had to be large enough to include individuals representing a wide range of personal energy and transportation actions and climate change beliefs. In addition, I had to have enough people from different combinations of action level, action type, and key demographic and psychographic categories to be able to meaningfully assess similarities and differences between different people.

However, my sample also had to be small enough that it was possible to adequately analyze and interpret each interview at the individual level before making comparisons between interviews. The in-depth interviews I used in this study yielded a large volume of information which I then analyzed using in-depth methods (see Data Analysis section for more details). Even with the aid of qualitative software that permits electronic coding and retrieval of data, there was an upper limit to the number of interviews that I could cognitively manage without there being an unacceptable decline in the rigor, consistency, and quality of the analysis. Past researchers have found that it is only possible to gain and maintain a thorough understanding of approximately 30-60 interviews before it becomes difficult to maintain a thorough understanding of all the information gained (Yung, 2003; Van Riper, 2003; Montag, 2004). On the other hand, highly insightful results have been obtained from samples as small as a few people (Mick and Buhl, 1992). In the end, I interviewed 21 individuals, which was small enough to allow me to maintain quality of analysis and large enough to allow me to address the range of different personal characteristics and potential motivating factors I outlined for this study.

Obtaining the Sample

I obtained my sample largely through personal references from relevant community groups and well connected individuals. For example, I worked with local environmental, climate change, and transportation organizations, to identify members who had engaged in climate friendly actions and held pro-environmental values. I also gained recommendations from these organizations of people who did not share the views of the organization and who were believed to engage in low levels of climate friendly action and hold less pro-environmental views.
I also used personal references from well connected individuals to obtain recommendations on people with a range of different levels of climate friendly action and a range of different personal characteristics. I also used interviewees to gain recommendations on other people they knew who met my key sampling criteria.

Initially, I found it easier to obtain interviewees with generally pro-environmental values. I also initially found it easier to obtain interviewees with more liberal political views. And, I found it easier to locate individuals with high levels of climate friendly action. Therefore, the second half of my interview seeking focused heavily on finding people with less pro-environmental values, more conservative political views, and lower levels of climate friendly actions to 'fill in' the kinds of representative types I was missing. I did this largely by asking previous interviewees and well connected community members for recommendations on possible participants who met my missing sampling continuums.

Sample limitations

The primary goal of my study was to understand people's motives and decision making processes for their personal energy and transportation actions, not their behavioral intentions. In addition, I sought to understand motives for climate friendly actions regardless of the reasons for those actions. Therefore, I chose people to interview based on the impact rather than the intent of their actions. As a result, I interviewed some people who had engaged in climate friendly reasons but had not done so in an effort to reduce climate change. However, as a result of this focus on understanding climate friendly actions regardless of motives, I may have missed interviewing some people who are motivated by a desire to reduce climate change but chose to undertake actions that do not effectively reduce greenhouse gas emissions. However, because my goal was to understand what motivates actions (or inaction) in areas that actually reduce climate change

rather than actions that are intended to do this but do not, I think this is a reasonable limitation of my sample.

A second limitation of my sample is that it has limited diversity of political views. Only two of my 21 interviewees openly expressed having conservative political views. Two other interviewees were referred to me specifically for having conservative political beliefs. However, one of these described herself as an independent, not a conservative and the other refused to discuss her political beliefs. A fifth interviewee seemed to have fairly conservative political views based on her interview responses, but she also refused to specifically discuss her political views during the interview. I think this limitation is acceptable given the fact that role of political views in beliefs about climate change were not a central focus of my study.

Data collection

I collected my data using in-depth, semi-structured interviews based on a pre-developed interview guide.

Interview methods

In the actual interviews, I did not follow a set question order but I did try to ask all of the questions in each interview. I organized interviews as "directed conversations" (Charmaz, 1991) in which my questions guided the interviewee through the range of topics but did not imply any desired responses. In addition, I organized interviews adaptively based on the interviewees' responses. I tried to follow up with questions that came naturally based on their previous responses as if in a conversation. However, I also guided the interview to cover all of the topics in my interview guide. I followed this approach to try to allow for unique and unexpected ideas to emerge but so I could also cover the same general topics in each interview.

I used broad and open-ended questions to introduce specific themes so that interviewees could respond with their own ideas, rather than being guided by mine. This was important because it allowed interviewees to introduce motives and ideas on their own instead of responding to, and being influenced by researcher-introduced constructs. However, I also used a range of specific follow-up questions to probe more deeply into different issues as relevant. Using this process, every interview was different. However, I covered the same range of topics in

each interview to facilitate cross interview analysis once I completed in-depth analyses of each interview individually.

All interviews were taped and transcribed for analysis. Interviews were transcribed verbatim to insure that all relevant contextual information was maintained, other than information that could be used to identify interviewees (see the "Protecting interviewee confidentiality" section below for more information).

Interview Guide

I developed the interview guide to address my key research questions, to fill perceived gaps in past research, and to try to allow key constructs from past research to come up if they were important to interviewees.

A first important element of my interview guide was that the questions focused on actual personal energy and transportation behaviors, not just behavioral intentions. I did this to address the failure of previous research to assess actual behavior. I also focused on talking through individuals day-to-day decisions about personal energy and transportation actions in addition to their overall approach to energy and transportation issues. I did this to try to understand both how an individual's thought about the larger issues of personal energy and transportation AND how they made their actual decisions about their actions.

Critical to my research design, I did not mention climate change in the introduction to the interview or in my pre-interview discussion with potential interviewees. I also did not introduce the topic of climate change until after I had asked interviewees to talk through their personal energy and transportation actions and decision process. I did this so that I would not direct interviewees to focus on climate change if it was not an important reason for their actions or was not an important energy and transportation issue to them.

Another important element of my interview guide was that I did not ask interviewees directly about any previously determined psychological constructs such as values, perceived risks, or social norms. Instead, I crafted questions that allowed for these issues to come up if they were relevant to the individual without forcing the topic into individual's thoughts. For example, I asked people to describe how they got started with and stay motivated in their overall approach to energy and transportation rather than asking them if they think their values guide their

decisions on these topics. Similarly, I did not ask individuals what their values were, instead I allowed the issue of values to come out when it was important to interviewees.

On the other hand, I did develop my questions to try to allow for major constructs such as values and social influences to come up if they were important to interviewees. For example, I asked them how they got started in their approach to personal energy and transportation actions and what keeps them motivated to follow that approach. I hoped that these questions would give interviewees a chance to reflect on things like values, social norms, or social networks IF they were important to the interviewee. As described in the results chapters, these questions –though very open ended and non-leading – did result in informative discussions about issues like values and social influences.

I included two sets of questions to specifically address my research interests in two specific constructs that were not well illuminated by previous research: social influences and personal relevance of climate change. However, I approached both of these issues carefully so that I would not lead the interviewee, just open up the topic to see if it was important to the interviewee. To address the issue of social influences, I asked interviewees if they discussed energy, transportation, or climate change issues at all with friends or family. If interviewees indicated that these conversations were important in their own thinking about energy and transportation actions, I followed the topic. If they did not seem important, I did not force them to talk through the role of social influences in their decisions and actions.

I included several different questions to address the personal relevance of climate change and if this influenced their motives to engage in climate friendly actions. First, I asked interviewees if they felt that climate change would impact them personally to assess if they found the issue personally relevant from a "perceived risk" point of view. At the end of the interview, I included a series of questions to understand if interviewees thought that the proposed local impacts of climate change such as increased forest fires, drought, and low snow fall -- things which most interviewees had experienced personally in recent years – would impact them personally. These questions were intended to "force" the issue climate change to feel more personally relevant. I then asked how they would respond if the proposed impacts became more common in the near future to see if avoiding personally relevant, local impacts, would play a role in their thoughts about climate change or climate friendly actions. I placed these questions at the end of the interview purposefully to avoid coloring interviewees' thoughts about their personal

energy or transportation actions or about climate change before they had been able to explore those topics in detail from their own point of view. The full interview guide is provided in **Appendix 1.**

Protecting interviewee confidentiality

Interviewees participated in this study with the expectation that their identities would be kept confidential. I have taken multiple steps to protect their identities. First, I did not attach any potentially identifying data to the interview recordings or the interview transcriptions. I gave each interview a pseudonym and used that in all files and notes about the interviews. In addition, I did not include any potentially identifying information in the transcriptions themselves; only basic, non-identifying, information such as gender and age were included. If someone mentioned the name of a spouse or friend, or other information that could be used to identify them I either left it out of the transcript or I changed the name or other specifics so that it could not be used to identify the interviewee. I have also destroyed all contact information I used while setting up interviews and I will destroy the recorded interview files as part of closing out this study.

Data analysis

I analyzed interviews using a cyclical, iterative process. The primary focus of this approach is to understand the whole before breaking things into parts and to continually reassess the relationship between the parts and the whole. As a result, I analyzed all interviews in-depth at the idiographic, or individual level, before making comparisons across interviews. This section describes my approach to idiographic analysis and to nomethetic, or cross interview analysis.

Idiographic Analysis

I analyzed all 21 interviews in-depth individually before I began looking for themes across interviews. The goal of this "idiographic" analysis was to understand each interview as its own coherent story.

In keeping with the whole before the parts approach, I read each interview in-depth as a whole before attempting to break it into themes. I read each interview twice in this initial review, once while listening to the transcript to insure accuracy and make notes on voice inflection or other things that came through in the recording. I had also made notes on important non-verbal

communications, such as shrugging of shoulders or making disgusted faces during the interviews themselves. I then read each interview again as a whole unit before beginning to identify themes.

Next, I reread interviews to identify "meaning units" or elements of the interview that have independent meanings. These meaning units formed the basis for identifying specific themes. Meaning units differ from themes in that they are actual "hard data" from the interview. Themes on the other hand are my own interpretation and organizing system for the meaning of the interview (Patterson and Williams, 2002). Once I had identified some key "meaning units", I re-read each interview and began making notes on themes, or my own interpretations of interviewees' ideas.

Critical to my research approach, I sought to identify themes without being limited by own research objectives so that ideas I had not originally conceived of could emerge when they were important to interviewees. However, I also considered how each interview spoke to my key research questions including its overall approach to personal transportation and energy use, the motives behind their transportation and energy use decisions, and their beliefs about climate change and what we should be doing about it.

I analyzed four interviews with several committee members and/or fellow graduate students to gain outside perspectives on key themes and meanings in my interviews. I did this for two interviews early on in my interviewing process to confirm and refine my interview guide and my overall approach to idiographic level analysis. After I had collected all my data and was in the midst of my idiographic analyses, I analyzed two additional interviews with a committee member and two graduate students. These group analyses helped me to see different perspectives and helped to confirm key themes that were recognized by multiple reviewers.

After I had read over half of my interviews and identified key themes in each, I began to develop an initial set of organizing themes, or a coding hierarchy. I based this initial coding hierarchy loosely on my research questions and the key themes I had identified in initial interview readings. For example, I used my main research questions to guide the development of a broad high level coding hierarchy including a place for codes or themes related to climate change, motives for energy and transportation actions, and the role of social factors such as interactions with friends and family. Importantly, this hierarchy did make sense based on my reading of the interviews. However, I was very flexible with this hierarchy and revised it often as I saw the need for a different organizational system based on analyses of additional interviews.

Once I developed this initial coding system, I re-read my first ten interviews and began identifying specific themes or codes using Nvivo10, an interview data coding, organization, and retrieval program. At the end of analyzing each interview, I revisited codes and made notes about possible reorganizations of codes, and themes I wanted to revisit in the interviews I had already coded. I reviewed and revised this coding system regularly throughout the interview analysis process.

After, I had completed an in-depth analysis of half of my interviews including identifying themes, developing a theme or coding hierarchy, and actually coding the themes in Nvivo, I felt ready to develop a visual organizational system for understanding each individual interview based on the key themes I had identified so far. In qualitative research, n organizing system can be used to both understand the phenomenon under research and to communicate those findings. According to Patterson and Williams:

"The purpose of an organizing system is to identify predominant themes through which narrative accounts (interviews) can be meaningfully organized, interpreted, and presented. The process of developing an organizing system is the "analysis," while the final organizing system is the product of the analysis" (Patterson & Williams, 2002, p. 45).

This idiographic organizing system provided a way to organize themes and relationships between themes as they emerged from each interview. It was not intended to be a "model" or description of reality but rather one way to understand, organize, and make sense of the interview and the interviewee's thoughts, beliefs, actions, and statements on key topics. Importantly, the organizing system developed organically from the interviews themselves. My forestructure of understanding -- or prior knowledge I develop through review of past literature – provided useful information for my analysis. However, I did not develop an organizing system *a priori* based on prior knowledge. This allowed me to remain open to emergent themes that I did not expect to find.

The organizing system for each interview includes both key themes and explanations supporting those themes from each individual interview. Specific quotes backing up the key findings from the organizing system were coded in Nvivo.

After developing my initial organizing system for idiographic level analysis, I presented it to the committee member and graduate students who had read two interviews with me to see if they agreed it captured key themes in the interviews and provided a useful tool for analyzing and

understanding each interview at the individual level. I explain this organizing system in detail and provide complete analyses for seven interviews using the organizing system in the Idiographic Analysis chapter.

At this point, I finished analyzing and coding all 21 interviews. I continued to revisit and revise the coding system regularly throughout these analyses. I also developed an organizing system graphic for each interview. The results of six of my idiographic analyses are presented in the Idiographic Analysis chapter.

Nomethetic Analysis

Based on an in-depth understanding of each interview on its own, it was clear that there were patterns across interviews that helped to answer my research questions and justified engaging in a nomethetic, or cross interview analysis. Nomethetic analysis, or looking for themes across interviewees, makes sense when the results of idiographic analyses suggest that there are useful and informative patterns across individuals.

My central focus in the nomethetic analysis was understanding how similarities and differences in how individuals' discussed their personal energy and transportation actions helped to understand key themes in motives for these actions and how individuals make these behavioral decisions. My first step in this process was to use the idiographic organizing systems and the key themes or codes developed during idiographic analyses as a base cross interview analysis. I developed a series of key themes in individual's personal energy and transportation decision making process that I thought could be useful in understanding how patterns across individuals helped to address my research questions. Specifically, I looked at patterns across individual's key motivations for action, individual's actual decision making process and how their initial motivations did or did not influence their final behavioral decisions. I also looked at patterns in how individual's thought about climate change, if and how those beliefs influenced their personal energy and transportation actions, and what they believe society in general should do to address climate change.

As an early step in the process of analyzing cross interview themes, I decided it would be useful to group interviewees based on key themes where idiographic analysis revealed that there were important similarities and differences across interviewees. These groups included overall values such as environmental values and consumption values, level of climate friendly actions,

and beliefs about climate change such as human vs. natural causes, level of knowledge about climate change, and level of concern about climate change.

Based on these groups, I was able to assess important patterns across interviewees that helped to answer my key research questions. For example, I was able to assess connections between people's values and their level of climate friendly action, such as if people who had stronger pro-environmental values engaged in higher levels of climate friendly action. I also assessed connections between beliefs about climate change and decisions to engage in climate friendly actions. And, I looked at how differences in people's life stage seemed to influence their ultimate decisions about personal energy and transportation actions.

Methodologically, I was careful to develop categories that did not require oversimplifying the complexity of individuals' beliefs. For example, I have multiple categories about environmental values to avoid losing the complexity of people's beliefs. I also use a "not enough information to judge" category as needed for people who did not discuss a given issue enough to allow me to feel comfortable summarizing their point of view into a broad category. I also did not force individuals into a "character type" that incorporated values or beliefs on multiple subjects. For example, although previous studies have found that people with strong pro-environmental values are also altruistic towards humans (Dietz et al., 2005; Dunlap et al., 2001), I did not group these two value types because they did not appear to be linked in most of my interviewees. I was also careful not to force categories to be a continuum when the beliefs of my interviewees did not easily support this.

I used the themes I had identified in my idiographic analyses, and the related Nvivo coding to help me investigate these connections and other patterns I saw emerging across individuals. I continually tested my ideas against the reality of interviewees' actual interview data to insure that my ideas were supported by their actual words and the in-depth meanings of their interviews I had established through idiographic analysis.

Ultimately, I developed an organizing system for understanding how patterns across individuals helped to answer my key research questions. This nomethetic organizing system pulls together patterns and themes in individuals' motives for personal energy and transportation actions, their actual decision making processes, their personal energy and transportation actions, and their beliefs about climate change. The overall system and how it informs the results of my nomethetic analysis are described in detail in the Nomethetic Analysis chapter.

CHAPTER 4: IDIOGRAPHIC ANALYSIS

Chapter introduction

This chapter is one of two results chapters presenting the data and analyses of this study. Based on the methods described in Chapter 3, this chapter includes the idiographic analyses, or in-depth analyses of key themes within individual interviews (Patterson and Williams, 2002). The next chapter presents the nomethetic analysis, or analysis of themes and trends across interviews (Patterson and Williams, 2002).

This chapter includes in-depth analyses of six interviews. The interviews presented in this chapter illustrate the idiographic analysis process and its value in addressing my key research objectives. These idiographic results are particularly important for illustrating the importance of interconnections between beliefs, values, experiences, and situational and social factors in understanding people's climate change related behavior and beliefs. I analyzed all 21 interviews at this level of depth individually to gain a solid understanding of the beliefs, motives, and decision making process behind each individual's personal energy and transportation actions and beliefs about climate change before I began detailed analyses of cross interview themes. However, the six analyses presented here were chosen because they represent the diversity of my overall sample across my key sampling continuums and they illustrate key themes of my overall analysis.

Chapter organization

I begin this chapter by introducing the organizing system I developed to analyze and understand each of my interviews on an individual, or idiographic, level. I present this first, because the organizing system provides the framework for the individual idiographic analyses presented in this chapter. It is also useful to introduce the organizing system first because it helps to explain key themes and terminology used in the individual interview analyses.

Next, I provide a short overview of each of the six interviews discussed in more detail in this chapter. This short overview of the interviews illustrates why I chose these six interviews to present in detail to exemplify the breadth and diversity of interviewees in my sample.

After this introductory information, I present the six idiographic analyses. Each interview is followed by a table of quotations from the actual interview that provides evidentiary

support for the points made in the idiographic analysis. Within the analyses themselves, these quotes are referenced by the first initial of the interviewee and then the number of the corresponding quote in the table. For example, in the analysis of Maya's interview, I use M.1, M.2, etc to indicate the first and second quotes in Maya's interview quote table.

At the end of the chapter I present some key conclusions from across the idiographic analyses. These conclusions lay the ground work for the nomethetic analysis of cross interview themes presented in the next chapter.

Idiographic organizing system

The idiographic analyses presented below are based on an organizing system I developed as a tool for understanding, organizing, and analyzing interviewees' thoughts and statements on key topics, presented in Figure 4.1 below. It is useful to explain the different elements of this organizing system before presenting my individual idiographic analyses.

When developing this organizing system, I did not start with a model or framework in mind. Rather this system for understanding my individual interviews developed organically as I read the interviews and identified key themes behind interviewees' motives for their personal energy use and transportation actions and their beliefs about climate change. My forestructure of understanding -- or the prior knowledge I developed through review of past literature – did provide some background for understanding my interviews. Not surprisingly, some elements of my organizing system support findings from previous studies and my organizing system has similarities to previously developed frameworks for understanding pro-environmental behavior and beliefs about climate change. These connections between my organizing system and previous literature are noted in the explanation below. Specific theories and previous studies referenced are discussed in more detail in the Literature Review section. However, it is important to emphasize that, though there are similarities to previously developed behavioral theories and models, I developed my organizing system after collecting and reviewing all of my interviews based on themes and ideas I found in my interview data; I did not develop it *a priori* based on prior knowledge.

The organizing system is meant to be a flexible tool for analyzing and understanding each interview on an individual basis. Because the organizing system was developed after interviews were conducted, the interviews themselves were not structured based on elements of the

organizing system and I did not necessarily ask specific questions about all of the elements of the organizing system in each interview. As a result, some elements of the organizing system are more important in some interviews than others and sometimes elements are absent altogether. I did not try to force interviewee's responses to fit into each "box" of the organizing system. Nonetheless, most of the elements of organizing system emerged as key themes in all interviewees' responses. The organizing system also provides a useful base for assessing patterns across interviews. A nomethetic analysis based largely on this organizing system will be presented in the next section.

The organizing system is divided into four types of elements. The light gray boxes are factors that I found help to explain individuals' motives for personal energy and transportation actions and their beliefs about climate change. The medium gray box entitled "Energy and transportation actual decision process" represents how these factors, and additional issues, interact in an individual's actual decision about what actions they will take. This element is a key difference between my studies and many other psychometric-based studies because it helps to explain why some of the commonly used psychological constructs that appear in the light gray boxes of my diagram (like values and social norms) do not have a direct influence on behavior. The white boxes with black outlines represent important dichotomies or tensions in individuals' thought processes. The first focuses on how different factors that influence an individual's background beliefs about personal energy and transportation actions are sometimes counteracted in the actual decision making process. The second white box illustrates that there is often tension or contradiction between the approach to climate friendly actions people take in their own lives and what they recommend that society in general should do to address climate change. Finally, the dark gray box on the right of the diagram represents individuals' actual personal energy and transportation behaviors, the final result of the interactions of all the other elements of the diagram. Each of the gray shaded boxes is described in more detail below.

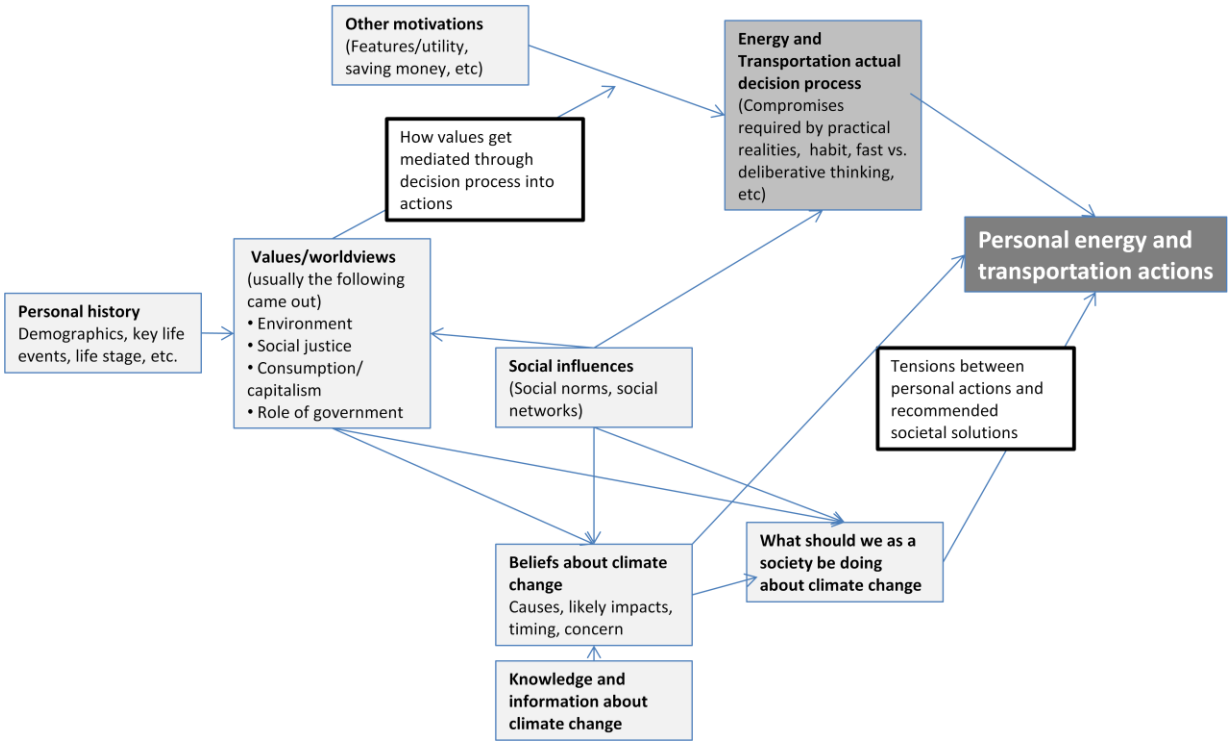

Figure 4.1 *Idiographic organizing system*

My analysis revealed that individuals' **values or worldviews** played a key role in both their decisions about personal energy and transportation and their beliefs about climate change. I did not specifically ask interviewees about their values or worldviews however, they came out in the interviews as a critical factor underlying behavior and beliefs. I believe the fact that I did not ask about values or worldviews but they emerged in the interviews provides additional support for their important role in motivating personal energy and transportation behavior and underpinning beliefs about climate change. Four value or worldview 'themes' came up repeatedly as important motives for both behavior and beliefs about climate change: beliefs about the environment and humans role in it (environmental values); beliefs about social justice and the responsibility to consider the well-being of poor and less powerful groups (social justice values); beliefs about capitalism and consumption (consumption values); and beliefs about the role of government (government values). In some cases, interviewees' responses could be placed along a continuum of these value dimensions. However, unlike studies that use a psychometric methodology, I did not force respondents to fit along a continuum or framework of values. Since

I did not specifically ask interviewees to describe their values or worldviews either specific to environmental issues, climate change, or energy and transportation, all four themes do not necessarily appear in each interview. Also, in some interviews, values or worldviews other than these four are more important for understanding interviewees' behaviors and beliefs.

Each of the four commonly occurring value themes is explained in more detail below. Some examples and results from my analyses are presented in these descriptions to illustrate what I mean by the different value themes, however a more detailed analysis of similarities and differences in values between interviewees and cross-interview patterns of relationships between values, behavior, and beliefs are presented in the Nomothetic Analysis chapter.

- **Environmental values:** Interviewees' values or worldviews about the environment, particularly humans' role in the environment and their dominance over other species were usually very important for understanding both their approach to personal energy and transportation actions and their beliefs about climate change. In general, respondents fell along a continuum of "environmental values" with strong "pro-environment" values on one end and strong "humans over the environment" values on the other end. Those who held more pro-environment values tended to believe that humans can negatively impact the environment and that it is their responsibility to minimize those negative impacts. People with pro-environmental values also tended to believe that humans should view themselves as just one of many species on the earth with no more right to exist or use resources than other species. I considered people to have stronger pro-environmental values when they organized their lives around their beliefs about the environment, for example, choosing to live in town and/or regularly use alternative modes of transportation to reduce their environmental impacts from driving. On the other end of the spectrum, people with "humans over nature" values tended to believe that humans can not substantially impact the environment. People on this end of the environmental values spectrum also tended to believe that humans should have precedence over other species and the environment and other species are here primarily for human consumption. The environmental values I found in my interviews closely parallel environmental value structures found in other studies including the New Ecological Paradigm (Dunlap et al., 2000) and "bio-altruism" or "biocentrism" values (Dietz et al., 2005). The environmental values I found are also similar to some elements of the self-

transcendence/ self-enhancement value dimensions proposed by Schwarz (1994) and applied to climate change related beliefs and behavior by Leiserowitz (2006). These value frameworks are described in more detail in the Literature Review section.

- **Social justice values:** Many interviewees expressed a strong commitment to social justice, or a desire for greater equity between richer and more powerful groups and poorer/less powerful groups. People who expressed this value often expressed a feeling of responsibility to adjust their own actions to try to help establish this equity. In my interviews, pro-social justice values were clearly distinct from environmental values. Sometimes interviewees expressed pro-social justice values in addition to pro-environmental values but they were not always linked. There was not a distinct continuum of beliefs about social justice. Interviewees either expressed the belief that there should be equity among people and/or the desire to help those who had less power and wealth or they did not mention social justice. In most cases, a strong value for social justice was linked with a belief that we should reduce climate change to protect poorer and less powerful groups who may be more impacted by climate change and less able to adapt. This value of social justice is very similar to the "altruism" value described by Dietz et al. (2005) and the self-transcendence value dimension described by Schwarz (1994), both are described in more detail in the Literature Review section.
- **Consumption values:** Many interviewees expressed strong values or worldviews about consumption and in many cases these were linked with beliefs about capitalism and/or the free market economy. Respondents' beliefs about consumption and capitalism did not fall on a neat continuum. Instead they are better envisioned as clusters of different beliefs around a common theme. Consumption values expressed by interviewees included an anti-capitalism/ anti-consumption worldview in which capitalism was seen as a negative part of western culture and something we should reconsider as a society. People with this worldview also tended to express the belief that consumption is generally negative and is not a route to happiness. Another consumption value was a belief that resources should be consumed wisely and efficiently but that consumption in general was not bad. Another consumption value interviewees expressed was belief that capitalism and the free market will ultimately solve environmental problems like climate change based on changes in resource availability and/or consumer preferences.

- **Government values:** Interviewees were specifically asked if and how government should be involved in addressing climate change. Responses to this question revealed important elements of respondents' overall worldviews about the role of government in society, which were in turn, important factors in understanding respondents' beliefs about climate change. Respondents' worldviews on the role of government in society tended to fall along a continuum from supporting high government involvement to favoring low involvement, though not all respondents' world views fit neatly on a continuum. On one end of the spectrum were people who would like a very strong role for government in guiding and regulating business and individual behavior for the betterment of the overall community. On the other extreme were people who believed that government should not interfere in business activities or individual choices at all. Other beliefs about the role of government included people who believed that government should intervene in business and individual activities but primarily by tweaking the mechanisms of the marketplace rather than through active regulation.

Interviewees' **personal history** proved to be an important factor in understanding their values or worldviews as well as their personal energy and transportation actions and beliefs about climate change. I did not ask many "demographic" questions but the interviews did reveal information about personal history that provides insight into their thought processes and beliefs. The most important element of personal history was the interviewees' life stage, for example being a parent with young children, a college student, or a young professional with no kids. Personal history also includes things like key formative events, such as spending time with a family member learning about nature or seeing a landfill in person. These kinds of experiences seem to play an important role in forming people's worldviews and in motivating their overall approach to personal energy use and transportation decisions. Interviewees' jobs, gender, level of education, and how they spend their free time were also important elements of life history that came up in most interviews.

Social influences impacted many other elements of interviewee's behavior choices and beliefs about climate change as well as influencing their values and worldviews. Many studies have found that social norms, or perceptions of what others believe is acceptable or preferable, influence behavior intentions (Ajzen, 1991, 2001; Kallgren et al., 2000). However, I found both a broader range of social influences to be important and a broader role for their influence. For

example, social influences clearly impact individuals' worldviews or values and their beliefs about climate change as well as their behavior. In addition to the commonly used definition of social norms as socially acceptable or preferable behavior, I also found that one's social networks and participation in structured groups like clubs play an important role in understanding personal energy and transportation behavior and beliefs about climate change.

In some cases, interviewees had **other motivating factors** that were important to understanding their decisions about personal energy and transportation actions that were not really values or worldviews, social influences, or elements of their personal history. These kinds of motives are represented in the "other motivations" box of the organizing system. This box includes things like a desire to save money or to get exercise. In the idiographic analyses below, these other factors are discussed along with their actual decision making process.

Respondents' **actual decision making process** was a critical step between their values or worldviews and their actual behavior. In most studies of pro-environmental behavior, behavior intent is the object of study rather than actual behavior (Ajzen, 1991; Gifford, 2013). However, there is often a gap between behavioral intentions, or desired behavior, and actual behavior Kollmus and Agyeman, 2002). This gap is understudied and not well understood. Therefore understanding individuals' actual decision making process about personal energy and transportation behavior, especially how they make day to day decisions in the moment, is a unique element of this study. In many cases, the insights gained about this decision making process help to understand how values or worldviews are mediated into actual behavior and why there are often gaps between values and actual behavior.

The **personal energy and transportation actions** "box" illustrates the actual actions that interviewees take in their daily lives. As suggested by the arrows in the Figure 4.1, these actions are primarily influenced by individual's values or worldviews and their social influences but these factors are mediated through an actual decision making process in which other factors often come into play and may reduce or even cancel out the influence of core values on behavior.

The **beliefs about climate change** "box" includes interviewees' beliefs about the causes of climate change (specifically if it is caused by humans or is a natural phenomenon); the likely impacts of climate change (including more general impacts like sea level rise or melting glaciers and more personal impacts like changes in local recreation opportunities); and their concern about climate change (including both overall level of concern and what kinds of impacts they are

most concerned about). As illustrated by the arrows in Figure 4.1, I found that interviewees' values or worldviews and their social influences were an important factor in understanding their beliefs about climate change. I also found that in some cases, interviewees' beliefs about climate change influenced their personal energy and transportation behaviors. Beliefs about climate change also influenced their beliefs about what society should be doing about climate change.

Beliefs about climate change are also influenced by individuals' knowledge about climate change and the **information sources** they used to gain that knowledge. There are there are two primary discourses on climate change. One focuses on the scientific consensus that climate change is happening, is caused by humans, and will have significant negative consequences. This discourse is dominant in mainstream media, scientific literature, and environmentally-focused sources (see for example IPCC, 2007, 2014; New York Times, March 31, 2014). The second, which often comes from politically conservative think tanks and politicians, focuses on the lack of scientific consensus about climate change and its human causes, limited evidence that climate change is happening and will have negative consequences, and the economic disadvantages of addressing climate change (see for example Washington and Cook, 2011; www.heritage.org/climatechange). While this was not a major focus of my research, it did come up as a factor in some interviews.

Interviewee's **beliefs about what we as a society should be doing about climate change** were influenced by both beliefs about climate change and overall values and world views. In addition, I found that there were often tensions between what interviewees thought society should do about climate change and what they themselves were doing to address the problem.

Organization of individual interview analyses based on idiographic organizing system

This organizing system provides a template for the idiographic analyses below. Each analysis is organized around the basic elements of the organizing system. Individual analyses begin with a discussion of personal history, key values and social influences, and how these play a role in influencing the interviewee's motives for personal energy and transportation actions. Then, I describe the interviewee's personal energy and transportation actions. Next, I describe their actual decision making process for these energy and transportation actions. Then, I describe their beliefs about climate change, again relating these to their approach to personal energy and

transportation actions. Finally, I provide a summary and conclusions for each individual interview. As described previously, quotes from each interview that support my analysis are provided in a table after each interview.

Explanation of interviews chosen for idiographic analysis

As mentioned previously, I chose the six idiographic analyses I present below because they provide a good representation of the diversity of my overall sample and they illustrate some of the key themes of my overall results. I provide a brief introduction to each of the six interviews below.

The first analysis, of Maya, provides an example of someone who exhibits a relatively high level of climate friendly actions. She is motivated to take these actions by a worldview that interweaves beliefs about community, social connection, consumption, capitalism, transportation, and community planning. She also has pro-environmental values and is motivated by a desire to preserve the beauty of nature. Maya believes that climate change is caused primarily by human activities and that government should take a very strong role in addressing it.

The second interviewee, Joel, also believes that climate change is human caused. He has a relatively high level of climate friendly actions but is motivated primarily by very strong pro-environmental values and by feeling he is part of a social movement devoted to reducing climate change. Like Maya, he also believes that the consumption focus of American society is a major problem and thinks we need a cultural revolution to change this and reduce climate change. He also represents how an earlier life stage, being a young college student, influences actions.

The third analysis, of Glen, also illustrates the strong role of social influences in motivating climate friendly actions. In this case, Glen is motivated by being part of a "green" social network. Glen is also motivated by pro-environmental values. He also provides a very insightful example of how life stage and other situational factors influence the behavior decision making process and impact the relationship between values and preferred actions and actual actions.

The fourth interviewee, Crystal, provides an example of someone who takes a high level of climate friendly actions but is not motivated by a desire to reduce climate change or protect the environment. In fact, she does not believe that climate change is primarily caused by human actions. Instead she is motivated by a strong value of frugality, or saving money and allocating

financial resources wisely. Social influences also play an important role in her beliefs, as she inhabits two social worlds at work and at home with very different beliefs about the environment and climate change.

The fifth analysis, of Leo, illustrates someone with very low climate friendly actions who holds strong "humans over the environment" values. Leo is not at all concerned about climate change and believes it is a primarily natural phenomenon. Interestingly, Leo does have social justice values but instead of motivating a desire to reduce climate change to protect less powerful groups, they influence him to believe that we should allow poorer and less powerful people to use natural resources in the same way American's have to develop their economy and personal opportunities.

The sixth interviewee, Tony, also has a relatively low level of climate friendly actions and believes that climate change is a natural phenomenon. He falls more towards the "humans over the environment" end of the environmental values continuum. However, he does believe – and in part act on the belief -- that it is important to use natural resources wisely and efficiently. He also strongly believes in capitalism, the free market and, a very limited role for government in society.

Idiographic analyses

Maya

Maya's values around consumption and community are the central theme of her interview. Her beliefs about consumption, nature, transportation, and community intertwine to create a worldview in which densely populated communities with strong social connections provide the solution to American's problems of overconsumption and climate change. Maya's beliefs about the role of government in society reflect her beliefs about consumption and community: she favors a very strong role for government to create the kind of connected communities she believes will address both overconsumption and climate change. Maya also illustrates that even a person with strong values favoring lowered consumption –and by default a lower carbon footprint – may not always exhibit those values in her choices about personal energy and transportation.

Personal history

Maya works to promote sustainable transportation and other behavior choices among college undergraduates, a job that supports her overall worldview about consumption and community. Her life stage might be described as an empty nester, she briefly mentions that she has children and grandchildren, but they do not play a significant role in the interview or the decisions about personal energy and transportation actions discussed in this interview. Maya is a Montana native. However, as discussed in the sections below, she has very different beliefs about the environment, consumption, and government from the other Montana natives in my sample (Ben, Crystal, Jane, Leo, Liz, Lynn, and Tony. Most other Montana natives have less pro-environmental values than Maya; they do not express Maya's beliefs about dense communities and lowered consumption; and they do not favor a very strong role for government in society. Like most of the other interviewees, Maya says she spends most of her free time outdoors. In her case, she prefers walking, biking, or skiing.

Values

<u>Consumption values: connect don't consume</u>

Maya's values about community, transportation, and consumption are the primary theme of this interview. Her worldview might be summarized as 'connect don't consume.' She believes that people consume too much, such as wanting large houses and large lots, to fill a void that really needs to be filled by social connection with one's community (M.1, M.2). Her primary focus is community, but these values fit into the overall theme of consumption values, because she sees a lack of social connection within communities as the cause of American's overconsumption. She links her value of community to reduced consumption through her beliefs about community planning and public transportation. Specifically, she believes that denser communities with small houses and small lots, better walk-ability, and more public transit will foster social connection, make people happier, reduce consumption, preserve the environment, and address climate change (M.2, M.13).

There is also an anti-capitalism and anti-big business theme in her beliefs about consumption and community. She describes American's current situation as "car culture", which she believes was sold to us by the car and oil companies (M.5, M.13). She says we were sold the American dream of the open road by "the automotive people" and implies that this is the root of many of the environmental and social problems in American society (M.5). She juxtaposes dense, tight knit communities where people ride the bus and care about each other (something we should strive for) against the social isolation and overconsumption that comes from "car culture" (M.2). As described in more detail below, she favors a strong role for government in reversing this "car culture" propagated by large corporations but bemoans the fact that the government is largely dominated by big business (M.15, M.13). She also describes money as nothing motre meaningful than "funny colored paper" and says it is not motivating to her. Instead she believes we should be more concerned about doing the right thing for the right reasons (M.2). All of these things illustrate the undercurrent of anti-capitalism in her beliefs.

<u>Environmental values: preserve the beauty of nature, humans are not the kings of the earth</u>

While community and consumption focused values are the dominant theme of Maya's worldview as expressed in this interview, she also holds pro-environment values. She wonders how people can "choose not to live responsibly" which she goes on to explain means recognizing that we are just one species on the planet, not "kings of the earth. (M.3)" We should be part of nature, she proposes and act to protect all of it not selfishly protect just our own little part of

it(M.3). Maya also specifically says her transportation and energy use decisions are motivated by desire to preserve natural beauty (M.4, M.5). Interestingly, Maya's environmental values seem to be more aesthetic-based than some other interviewees who also hold pro-environmental values. She talks about the importance of preserving the beauty of nature rather than protecting a working ecosystem or other conceptions of environmental preservation. Maya also links her value of protecting natural beauty with her beliefs about community, transportation, and overconsumption. For example, she believes that one benefit of denser, more connected communities is to preserve the beauty of open, natural lands outside of towns and cities. She believes we should live in town and go out to visit "our beauty" rather than live in the country, and by so doing despoil nature and isolate ourselves in cars driving back and forth every day (M.5).

Role of government in society

Maya supports a very strong role for government in society. She is a self-described socialist who believes government should mandate individual behavior for the betterment of the overall community (M.13, M.14, M.15). This belief about government works with her values of community and low consumption, as she believes government should play a central role in implementing the kind of denser, lower consumption, more connected, and less 'car centric' kinds of communities she prefers.

Social influences – generational shifts in consumption values

The primary social influence that appears in Maya's interview is her perception of a cultural zeitgeist, or 'spirit of the age'. This might also be described as her perception of overall social or cultural norms. She describes how she sees different generations as having different overall worldviews towards consumption and environmental preservation. She says that her grandparents' generation valued reuse over consumption because they lived through the Depression. Her parents' generation, on the other hand, may have grown up with very reuse conscious parents but they lost this value in the 1950's as they moved into a 'Tupperware' worldview, believing they could have everything they wanted. She feels that as a "child of the 60's" she regained the values of reusing and not wasting as overall culture shifted again. She thinks the current generation of young adults has lost this focus on not wasting (M.6; M.7).

She also says that she gained some of her low consumption values from her upbringing. She explains that she is Scotch, and the Scotch are known for their focus on saving money. But this familial influence doesn't seem to be the driving force for her, as she goes on to say that she doesn't care about money it is just "funny colored paper" (M.2).

Personal transportation and energy actions

Maya exhibits a relatively high level of "climate friendly" personal transportation and energy use actions. However, she also exhibits some interesting contradictions between low consumption intentions and her actual actions. Maya primarily bikes or rides the bus for daily commute to work and she usually walks if she is going downtown. She also chose the location of her home to be able to use transit, bike, and walk to most of her frequent destinations. She also mostly walks her dog in town so she doesn't have to drive to get to a trail head. She says she does drive usually for shopping and for traveling to the 'big box store' part of town. Her ideal transportation situation builds on how she already behaves and strongly parallels her "connect, don't consume" values. She says that in an ideal world, she would like to have such good public transit that she only needs her car to leave town, and even then, she wishes she could use the train to leave town (M.8).

Interestingly, low consumption or environmental preservation did play a central role in her choice of vehicle. She says chose her car not based on gas mileage, but because it was big enough to carry her dogs but still small enough to fit in her garage. She admits that it doesn't get that good of mileage. For her next vehicle she says she would consider a hybrid but only if she could get something like her current vehicle in a hybrid (M.8). Maya may have chosen not to prioritize fuel efficiency in her vehicle purchase decision in part because a primary values motivating her personal transportation decisions are more about building community than about environmental preservation or reducing climate change. Therefore, the specific environmental impacts of her car are not as important to her.

Maya says she chose her house because it was "environmentally friendly," efficient, small, and affordable. It includes green features like a high efficiency hot water heater, tight insulation, and passive solar. However, she does not do much behaviorally to reduce energy use in her home (M.9).

Actual decision making process

Unfortunately, Maya provided limited detail on her actual decision making process, but from what she did provide but did give indications about behaviors that are driven by her world view. Maya's "connect, don't consume" values of low consumption and connected communities clearly underlies her major decisions to limit her use of a personal vehicle, such as commuting by bike or bus and locating her home to facilitate that. But it appears that this value is also mediated by practical realities – for example, she usually drives when shopping. Her choice of personal vehicle also seems like it was a compromise of values and practical realities (M.8). Given her environmental values, it might be surprising that she did not focus on gas mileage when choosing her car. However, the fact that she did not prioritize gas mileage in her choice of vehicle may reflect the fact that her primary value is building community and lowering consumption; not environmental protection. She has organized her life to limit driving because it fits with her beliefs about socially connected communities. But if she is going to drive, it may be that environmental impact is not that important to her. Furthermore, her pro-environmental values are more about protecting the beauty of nature rather than reducing greenhouse gas emissions. As a result, she may not directly link her choice of vehicle – and its low fuel efficiency-- to environmental preservation as much as she links her choice to live in town with her environmental values.

Another apparent compromise between her stated beliefs and her actual actions is the size of her house. She says she thinks people should have to live in smaller houses, but she is just one person living in a three bedroom home. Again, this apparent contradiction may result from the fact that Maya is primarily motivated by a value of community rather than environmental protection. Therefore, living in an established neighborhood, with good walkability and transit, on what she refers to as a "small lot" may fulfill her desire to live in a connected community even if it seems to go against her statement that people should not be allowed to live in big houses.

It is also important to note that, while many of her actions are "climate friendly" and she supports the idea of reducing climate change, she specifically says that climate change is not motivational to her. She explains that climate change is too impersonal and too far removed for her to really consider it in her own decisions. She says she knows climate change is important,

and it's part of the big picture, but she feels like individually she can't do much "about the big picture as a single person." (M.16)

Even though Maya does not walk through her decision making process as thoroughly as some other interviewees, the details of this interview provide useful information for understanding why her actions sometimes appear to be in conflict with her values. A narrow reading of her values as "low consumption" and "pro-environment" without the depth of insight provided by this interview might lead one to believe that her somewhat large house and her less fuel efficient vehicle are in conflict with her dominant values. However, since her overall value system is more focused on connected, well planned communities and preserving natural beauty than it is on a general desire for lowered consumption or reduced environmental impacts, it is likely that she believes her overall lifestyle of living in a dense neighborhood and using alternative forms of transportation supports her overall worldview.

Beliefs about climate change: think locally, act locally or build community, stop climate change

Maya believes that climate change is a human caused problem and that we should be actively addressing it. She has a relatively high level of concern about it. For example, she suggests that if we continue on our current trend, we may be "working ourselves out of a place to live" (M.11). She also says we are "headed in the wrong direction and need to do get with it in a hurry" (M.10).

Maya's interview does not contain a lot of information to judge her overall knowledge about climate change. However, she clearly understands that it is largely caused by energy use and transportation emissions. When asked what she thinks about climate change, she immediately begins discussing things we could do to reduce climate change including home energy efficiency and transportation-related actions (M.10). For example, she notes that transportation related emissions are about one third of the total greenhouse gas emissions produced in the United States (M.10).

Her discussion of the likely impacts of climate change is less detailed than some other interviewees, but she is aware that weather patterns will likely shift (M.11). She also focuses on how climate change makes the future very uncertain because no one knows exactly what will

happen. She believes that changes are already happening, but the bulk of the impacts will come in 50-100 years, affecting her children and grandchildren more than her own generation (M.11).

Maya's focus on transportation as a main cause of climate change (M.10) might lead her to recommend stricter vehicle emissions standards or tax incentives for lower emission vehicles to encourage people to purchase them. However, instead Maya suggests that to address climate change, we need much larger cultural change. The detailed understanding of Maya's values about community, consumption, transportation, and natural beauty provided in this interview make it possible to understand her more extreme recommendations for how to address climate change.

In keeping with her beliefs about community and consumption Maya believes that to address climate change we need a culture change, a shift from "car culture" to community connection. She believes that America's "car culture," not only isolates us and drives us to over consume to alleviate the unhappiness we feel from our lack of community, it is a central cause of environmental problems in general (M.5) and of climate change specifically (M.10, M.13). Her 'connect don't consume' values are clearly reflected in her recommended solutions to climate change. Specifically, she believes we need to change our consumption-focused, disconnected culture by forcing people to live in tighter-knit walkable communities, with good mass transit (M.10, M.13, M.14). She believes that these changes will both address climate change and make us happier as individuals. She summarizes her prescription for addressing climate change, and reflects her core 'connect don't consume' values, in the following quote:

"Yeah, my priorities would be that we should outlaw – I know people would not like that – outlaw one acre plots, outlaw five acre plots. Really zone communities so that we live closer together and that we – really get serious about our transportation issues and invest in them and I think we should tax the hell out of fuel so that we can generate enough funding to do something different, and not just tax the hell out of fuel, but we need to – which is very unpopular stance – I believe we need to invest in community and so we – the whole general idea that we don't want to pay taxes – taxes are how we pay to help each other and we need to buck up and quit being so selfish." (M.13)

She believes that government needs to be the primary force driving this change to a more community-focused culture. She believes that because the need for action is urgent and the scope of change required is large, we cannot wait for the slower process of individual behavior and consumption change to address the problem. Instead, she believes the government should force more community connection and lower consumption by requiring denser development and

outlawing large lot residential development (M.13). She also believes that government needs to "take over transportation" and provide the infrastructure needed for connected, walkable communities, like public transit (M.14). Maya's vision of a very strong role for government in addressing climate change is quite different from what some other interviewees, like Crystal, mean when they say government will have to lead the effort to address climate change. It is also very different from interviewees, like Glen, who might share some of Maya's community values, but stop short of proposing that they be mandated by law.

Maya also has some recommendations for how to talk about climate change to encourage people to care more about it. First, she proposes that we need to make climate change more personal. She explains that it is too "out there" for most people, it needs to be brought down to a more individual level. She contrasts climate change with what she calls "the original environmental movement" of the 1960's, which she believes was more personal (M.16). She also recommends making climate change messaging more hopeful. She feels that focusing on how bad climate change is or will be makes people feel hopeless and less likely to act to reduce it (M.12). She recommends building hope by focusing on what we can do to reduce it, rather than building fear and fatalism by discussing how potentially devastating climate change might be (M.16). These ideas on how to develop better 'messaging' about climate change may well reflect her feelings that climate change is too big of an issue to provide a strong motivation for her own behavior choices.

Maya also has a very insightful point of view on how the information one gets about climate change influences their beliefs on the subject. She notes that people who are more "liberal and open" are more willing to seek out and read the environmental science about climate change, while people who are more conservative politically seek out different information that supports their own point of view (M.17). Maya implies that people who are not willing to read about the science of climate change will be less likely to understand and accept the reality of human caused climate change.

Summary

This interview illustrates that a detailed understanding of a person's values and worldview is very important for understanding their decisions about personal energy use and transportation as well as her beliefs about climate change. Understanding that Maya's worldview

is focused on community as the driving force behind transportation and consumption decisions makes it easier to understand why she chooses to engage in some environmentally-friendly behaviors but not others. For example, it is more important to her to live in dense community with many transportation options than to drive a really fuel efficient vehicle because her values are focused on a broader vision for well planned communities not on reducing vehicle emissions. Similarly, Maya's prescription for reducing climate change involves a major culture shift in community planning and transportation rather than individual behavior changes.

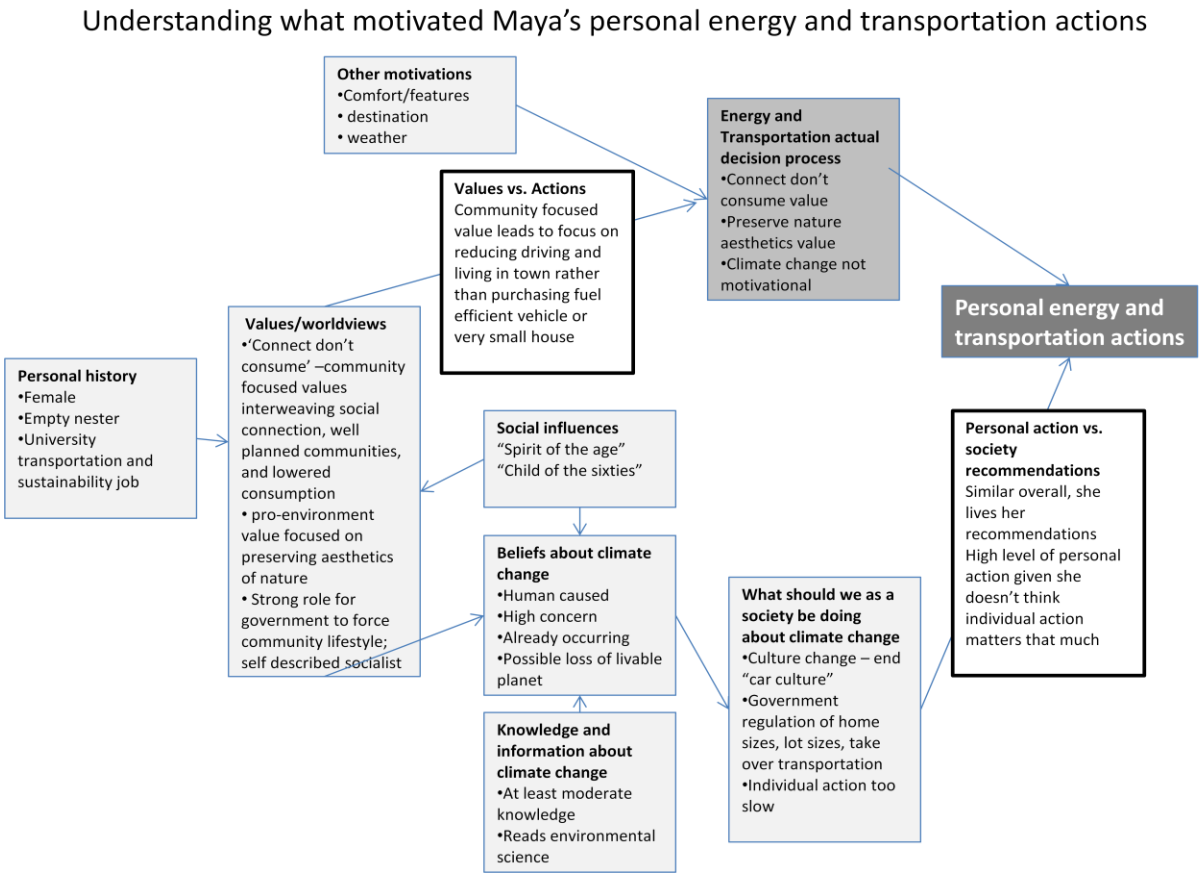

Figure 4.2 *Maya idiographic organizing system*

Maya Quote Table

M.1 Low consumption values – consumption is not happiness; restrictions on individual behavior

Interviewer (I): So talk to me about the small side of things. How does that come out as important for you?

Maya (M): Well, it's always been important to me. I really think that we – one of my theories when I was doing economics was that I believe people should only be allowed X number of square feet to live in. They can have it gold plated if they wanted, but we shouldn't be allowed to just build endlessly with our, you know, to appease a large couch or something. I don't know why people want these big huge high ceiling, open spaced living spaces. I think it's really inefficient and kind of unfair to the rest of the world to think we get that much space to curl up in. And if you ever look at people in a large house – my sister has a really large house, and what's really funny about her house is they have one small room that they basically live in and they have this monster house, and I realized people want to be cozy and they want to be close together but they think they need all this room, which they don't use. So that's my little deal. I think people should live in less space.

M.2 Consumption values: not motivated by money; connect don't consume

M: My background is Scotch so, you know, [laughing] mostly it was money motivated as a child. It was like we saved everything. We're Scotch. That was the original reason why, but I think – and money is a motivator but not a very good motivator for me. I've always just kind of thought of it as funny colored paper. It just doesn't matter particularly. It more matters what you're doing and why you're doing it. So, I don't know. For me, mine is just more like being a good citizen of the earth, you know, kind of thing. I'm from the '60s.

I: That's great. I was going to ask next kind of what keeps you motivated? What started you off but what keeps you going?

M: You know, yeah, right now, like this job and why I'm interested in transportation in Missoula, Montana is because I believe that transportation and giving ourselves over to the oil, you know, realm, as I believe we were kind of forced into, has really changed our communities into something that makes us not be community oriented, and I believe that falling out of touch with your community is what makes people unhappy and continue to just try and consume, consume, consume because they're unhappy so they're just trying to fill something, they're just consuming, that what they're really trying to get back is the thing they gave away and that's a sense of community and belonging, which I believe that you get when you're saying hello to your neighbors and you're getting to know each other, which doesn't happen in a car.

I: Yeah.

M: I say this a lot about riding the bus, when you get in your car in the morning and you're driving to work, you're pissed off at everybody in your way and everything is in your way, the red light's in your way, the person that wants to cross the street is in your way, everybody's in your way, but when you go out and wait at a bus stop for a bus to come by, you check out your surroundings, you see whose there, you get on the bus, you can see lots of people less fortunate than you, you're filled with gratitude, people are not in your way, they're with you on your path to get there. So you just join the sense of community. You have a much better sense of community. You're worried about the old lady that didn't get a seat on the bus and, you know, it's just – you just get into a different frame, mental frame than you do in your car with your little piece of metal around you.

M.3 Environmental values – humans are not the kings of the earth
M: But I think, you know, how can we not choose to live responsibly? I don't know.
I: That's interesting. That's – if you're willing to kind of go a little deeper.
M: I mean, how can we not choose to think that everything has a place on this earth and we're just one of them? Why do we think we're the king of the earth? You know what I'm saying? I just don't feel like we're the king of the earth. So I think our responsibility is to be part of what's around us and what we enjoy and love, everybody loves the beauty of the earth, why don't you want to be part of that?
I: Yeah.
M: I always thought it was interesting that George Bush – I've heard this, don't know this as a fact – I've heard has this completely sustainable place that he lives on so, interestingly enough, you know, as long as we just take care of me in this small little space, you know, but that to me, why would you want to just take care of one small – why wouldn't you want to take a broader so you can travel and see other things and be part of the rest of this great place we live in.
I: Yeah. That's interesting.
M: We're really selfish.

M.4 Environmental values – motivated by preserving pristine place
I: And how about for you, do you feel like your motivated by the hope of what can be accomplished in terms of your own personal behaviors or –
M: Hmmm…That's interesting. I think I'm motivated by – so it sounds really geeky – but just by where we live. We live in such a pristine beautiful place that that's what I'm motivated by is preserving our place.

M.5 Environmental and consumption values linked: preserving natural beauty from "car culture"
M: Well, I think, for me, what it means is that I really want to preserve the beauty that I've seen. My best example here would be as a child growing up we used to go to Yellowstone and it was a very pristine beautiful place and bears were there and – there were people there but there were not – and there were people in lines in cars but the people and the cars did not overtake Yellowstone. I can hardly go there anymore because there's so much pavement and it's all designed to make cars enter better and I think we gave away one of our world's beauties to the car, for God sakes, when we could have said you can only enter this beautiful pristine place in some – a bus. You may only come in here in a bus and you may come in and go out and you will be led in and led out and we will let it stay wild, and we failed at that. So I'd like to see us do better than that here. And I've seen a lot of failed communities. Look at Seattle, it's a failed community as far as I'm concerned; beautiful pristine place that they gave over to the car. And it's really hard work not to let that happen because, again, once you get inside your little vehicle and you were promised the open road, you want the open road, you know, we were sold the American dream in the car ads that – the woman with her scarf blowing in the wind as she drives as fast as she wants down the highway all by herself, and that's what everybody wants, and it's an unrealistic vision that was sold to us by the automotive people. And I believe it's caused a lot of real problems in our – saving our earth, you know.
I: Yeah, that's interesting. So for you, would you say the – kind of the natural areas, the preservation of natural areas and this idea of community are kind of linked or –
M: Absolutely.

I: -- separate or –
M: No, they're very linked. Because if we don't live – well, look at Europe. Europe gets it. You live in a community together and you protect your outlying land and they do that because they have to because it's a small space with lots of people. And here we have lots of space with – especially in Montana, very few people – but even though we have very few people, we're being really wasteful with our land. So, you know, it doesn't matter that we have very few people, and that makes it much harder for us to fight the battles of community development and living in dense communities. People are "I'm so afraid I'm not going to have all this land that I really don't want because it's too much work but I think I want it." I mean, I have fallen victim to the idea of going for a Sunday drive out in the woods and thought, Oh, I'd love to live out here, but, you know – I say this a lot [laughing], people forgot to finish that thought, you're not just living out there, you're out there for a minute and then you're driving the rest of your life because you want to come in to go to school and shop. So we should live together and then go out to see our beauty instead of all wanting to live in our beauty. But Montanans wouldn't like that if we tried to regulate that or legislate that or whatever. I guess that's why we need a – you know why democracy doesn't always work for the protection of, you know, what we have that we care about.

M.6 Social influences – spirit of the age, depression, Tupperware age, 1960s
M: And I think people in the – of my age, parents grew up in the recession – more than a recession – what was it?
I: In the depression?
M: In the depression. Excuse me. I just couldn't come up with the word. In the depression, so they were very reuse conscious and so we grew up with reuse consciousness. And then kind of, our parents tried – I mean, in my mind, my mom kind of moved into this thing, and I think it was kind of the television – the Tupperware view and we're going to have all – everything, and we're going to open everything out of a can, you know, kind of the – we want to be modern women, whatever, so we really learned our reuse, I think, people in the '60s as we were coming of age in the '60s, learned our reuse philosophies from our grandparents who were really a big reuse age. I don't know. And then I think it's kind of gone away again.

M.7 Social influences – "spirit of the age" she got involved in environmental issues going to college in the 60's
I: How would you say you learned about energy efficiency or transportation, how do you know about all these things?
M: You know, a lot of it came – well, I would say in my generation, a lot of it we were talking about in school, in science classes talking about – the big thing at the time was the population bomb and the – that was kind of your – my generation is like we can't feed all these people, we can't house all these people, we can't – so that was more what – where I got started. I don't know, it just always made sense to me.

M.8 Personal transportation
I: So I'm wondering how in general do you get yourself around town, you or your family or your dogs –
M: I usually bike from March to mid-October and then in between I take the bus for my work commute. For my other trips, I usually walk if I'm going downtown. If I'm going to the North

Reserve area, I drive. If I'm going usually to the grocery, I drive, sometimes I bike to the Good Food Store because I'm kind of central.
I: Okay. Terrific. And you mentioned you have dogs. Do you drive them around to hikes and stuff like that or walk them in town more.
M: No. Pretty much walk in town. We're pretty close to the river.
I: That's nice. I'm wondering what kind of car you have; sound like you have a car.
M: I have a Toyota Scion XB.
M: Okay. I know exactly what that is. They're very cute.
M: A funny little box car.
I: Yeah. Very cute. And what appealed to you about that car?
M: It has a lot of head room and there's room for the dogs in the back still and it's short enough to fit in my garage.
I: Nice. That's important. Did gas mileage play a role at all in your decision on that car?
M: Yeah, it has okay – that's the one thing – it didn't have as good a gas mileage as I would have liked but to get better gas mileage I would have had to go quite a bit smaller.
I: Yep. And how about financial considerations, did they play a role at all?
M: Oh, in the car I picked? Yes, absolutely. Yeah.
I: Okay. Terrific. If you were going to buy a new car or if you were going to do it all over again, I don't know how recently you purchased this car, what do you think you would get?
M: Well, I just bought this a couple a years ago, so I don't plan on buying another car, but I would – it would be fun to be able to get a hybrid but I would want something very close to what I have, and that doesn't come that way yet.
I: So kind of talk me through, if you're willing, the features of the car you have now that you would want to replicate, kind of the most important things. If you had to kind of make your own car –
M: I'd want enough room in the car – I have friends with – I have a friend with a really, like a mini, and it gets great mileage but it is really claustrophobic. I'd want a little room.
…
M: In an ideal world, I would like to have really good transit so you could just run out and grab a bus or walk to the trolley or something to that effect. And that it came frequent enough that you only needed your car to leave town. That would be really nice.
I: Yeah. Terrific.
M: And I'd love to have a train to leave town.
…
M: Yeah. I live where I live because I can walk to recreation, to shopping, to work, or bike – I can walk or bike easily. So definitely I have made – that's why we live there.

M.9 Home energy use
I: Okay. Great. And what appealed to you about that house?
M: It was actually built by NAME REMOVED whose an environmentally friendly builder and it is very energy efficient, and that is what I wanted about it.
I: Terrific. Did you buy it –
M: And it was small and affordable. Yeah, I did buy it about five years ago.
I: Okay. Terrific.
M: I didn't buy it. I traded two houses for one.
I: Oh, interesting.

M: Yeah.
I: To BUILDER or –
M: Yeah, to BUILDER. Then he retrofitted the other two houses and sold them.
I: Oh, interesting. So tell me a little bit about your house in terms of the energy use and kind of how you use energy in your house and the features of the house that are – relate to energy.

M: It's just really efficient. The hot water is amazingly efficient, and I don't know why, to be quite honest, because it doesn't look like any more efficient hot water thing than anywhere else but it really is efficient. So we've never run out of hot water. It's just a little hot water heater but I don't know what it is, but I should ask BUILDER sometime what it is. And it had three bedrooms and two baths and a small, very small, it was on a split lot, so there's not very much yard, and that was important, and my heating bills were about – heat, light, everything about $70 a month so that's pretty good, all year long, because I do the budget billing thing so that's pretty good. So comparatively to other houses I've had that where the wind blows through them, it's really tight and really efficient. And it's also aligned so you get as much sun as you can possibly get, so, you know, it's really efficient. He did a really nice job.

M.10 Causes of climate change and lack of community as the problem
I: I'm wondering, one of the issues that of course has to do with energy is climate change, and I'm wondering kind of what your thoughts are on the whole issue.
M: Yeah, we're headed in the wrong direction. We've got to get with it in a hurry. There are a lot of things that need to change that seem so simple that could change to help with climate change, like white roofs. Mostly for me – for me, because this is my work environment, trains, and people want trains, people want – once they use a bus, they like using the bus. We really – that's a third of the pollution of the problem is transportation. We could cure that very quickly with providing communities with better transportation and connecting communities and –

M.11 Level of concern and likely impacts
I: What do you think – what concerns you about climate change? What are the things that make you concerned about it, in general, if anything?
M: Well, I mean, I honestly believe that we're working ourselves out of a place to live by not doing something about it. I mean, not for me, not for my generation but I worry about my kids and my kids' kids, future generations certainly.
I: What do you think is going to happen? What are your, kind of, vision of where we're headed?
M: I don't know. I think our weather is going to get really wild. I think our weather is getting really wild. I think there will be a lot of unknown. I don't think anybody knows. Does anybody know what's going to happen? I don't think so.
I: Yeah. So uncertainty, kind of, is a –
M: Yeah.
I: Do you think -- when you think about climate change, do you think things – what's the kind of time frame that you think of? Things are already changing? Things will change in a hundred years –
M: I believe things are already changing. I don't see how anybody could say things aren't changing. There are people that say that.
I: Yeah. So it's kind of immediate as opposed to off in the future kind of thing or –

M: Well, I don't see – I don't feel like tomorrow the world is going to end or anything, but I foresee some serious earth changes coming about in the next hundred years, 50 to 100 years but I could be wrong, it could be sooner than that, some say sooner. I don't know. You got me.

M.12 What to do about climate change – provide hope
M: But I do think we have to be careful – in my mind, I think it's really important for educators to always add while they're giving kids the bad statistics of where the world is going to add that we really don't know. There's a lot of things we really don't know about what our behavior changes can do. So there's some sense of hope or something, I mean, to give people the real doom and gloom all the time is just – doesn't help people be very productive. It's like well we're going anyway folks [sarcastic, laughing].

M.13 What to do about climate change – change our consumption-focused, disconnected culture and force people to live in tighter knit communities
I: We've talked a little bit about this but what would you say we should be doing about climate change?
M: As much as we can. We should try it all, whatever we think will help.
I: Do you have any kind of specific things that come to your mind that we should be –
M: Yes. We should live in – Yeah, my priorities would be that we should outlaw – no people would not like that – outlaw one acre plots, outlaw five acre plots. Really zone communities so that we live closer together and that we – really get serious about our transportation issues and invest in them and I think we should tax the hell out of fuel so that we can generate enough funding to do something different, and not just tax the hell out of fuel, but we need to – which is very unpopular stance – I believe we need to invest in community and so we – the whole general idea that we don't want to pay taxes – taxes are how we pay to help each other and we need to buck up and quit being so selfish.

M.14 What to do about climate change – strong government regulations
I: And who would you say needs to be – who should be doing, playing a larger role and then also who do you think really will if you had to say, you know, government, businesses, individual behavior change –
M: Government has to take over transportation. We have to. We have to invest in public transportation like any other civilization has ever done. It's a utility and that we've decided is to be personalized, which is a silly way to go about it. It forces – well, I could go on and on about transportation because of land use and blah, blah, that we could make a lot of really bad mistakes because of our transportation that we did have in place that we threw away because oil trumped everything.

M.15 What do to about climate change – government has to lead, market forces won't work fast enough
I: And what would you say in terms of kind of the role of government in general with climate change compared to the role of individual behavior change, kind of how do you see those two –
M: Absolutely. You have to have a leader in a country that -- I believe there has to be really strong leaders to motivate people to want to take, you know, your victory gardens; you need to be the kind of leader that inspires people to do the right thing. People do need strong leaders. I think the government – I mean, it can go the other way around, and that's what we're trying to

do in this country, like organic foods, you know, people can spend their dollar in a way to force corporations to move to better or more responsible ways of doing things. And we're doing that. It's just very slow and I believe with climate change we really don't have time. We really need a little stronger, faster movement than what we can get through letting the market direct the change.
I: So you would say that there's a strong role for government to push that –
M: Yeah, way stronger role.
I: -- make that quicker change.
M: Yeah. And who's the government at this point but large corporations, so I don't know.

M.16 What should we do about climate change: make it more personal and more hopeful to make it more motivational

I: Do you think about climate change at all when you're making your own personal choices about transportation or residential energy use?
M: Yeah. Yeah. Climate change, I'm not so certain climate change but I would say environment is important to me. So climate change in itself – and I think that is important. I think climate change is something that is pretty out there for most people because more out there than your current environment. The climate change seems to be kind of the more popular thing to discuss than – like even recycling or anything like that for people these days, they're more willing to talk about climate change and maybe it's because it has less personal responsibility.
I: That's very interesting. Yeah, maybe you could speak a little more your thoughts on that. That's very interesting..
M: Really, honestly, just saying that to you, that's why, it's because it really has less personal responsibility. Climate change is something big out there for a lot of people where the environmental movement was really personal, you know, we're going to pick organic food, we're going to, you know, I think it's really important to bring it down to an individual – so that there is something you personally can do to make a difference in the way you shop and the way that you eat, live and drive, or don't.
I: So would you say that's why you kind of said, well, climate change, yes; no on the motivation thing, do you feel it's too far out there to be motivational or –
M: Well, I do, somehow I do. I mean, personally, it's important to know. It's the big picture. But you can't do much about the big picture as a single person. I think it does add to hopelessness. I'm glad you asked me that question, because I hadn't really thought about it that way. I think it is true. I think we need to make – how you give people hope is to give them something they can personally do to be different that I just honestly think might have missed this round of students.

M.17 Influence of politics and information sources on beliefs about climate change

I: Do you think your political view influence your thoughts about climate change at all?
M: Absolutely. I: How, would you say?
M: Well, I would say I'm a socialist so, yeah. I think my political views definitely influence my – or it might be the other way around. I'm not sure. But one influences the other.
I: In terms of it influences what you think we should be doing about the issue of climate –
M: And how we can do something about the issue, yes.
I: Do you think it influences your initial belief that climate change is happening or –

M: I don't know. Maybe, because I'm more willing to read information. I went to a city council meeting and there was a gentleman there that said it's a huge conspiracy and that there's no such thing as climate change and he read a four-page thing about – and he's a young person – about how there's no such thing and it's a big – so I don't know where I was going with that point but –
I: Because you're willing to read other –
M: I believe I'm more willing to read things that come from environmental science, people that are liberal and open in my mind, liberal and open. I'm more willing to read those than I am willing to read things that come from the right that say, you know, there's plenty of oil and – so I don't read those things and so I believe that – yeah, I believe your political affiliation definitely influences your thought process about – because of where it will take you and what you will read and what you will – the information you'll seek.

Joel

Joel provides another example of someone who engages in a high level of climate friendly personal energy and transportation behavior. Like, Maya and Glen -- two of the three "high-level" actors included in these idiographic analyses -- he is motivated in these actions by pro-environmental values. Like Maya and Glen, Joel believes climate change is human caused and he is highly concerned about it. Like Maya, Joel also believes that climate change is a symptom of more important cultural problems and that climate change can only be solved with a cultural revolution. However, Joel also illustrates that there is quite a bit of variety within the overall category of pro-environmental values. As described in this analysis, his beliefs about the environment are quite different from either Glen or Maya even though all three hold generally pro-environmental values. Joel's interview provides many interesting insights. However, I primarily chose to include it in these in-depth analyses for two reasons: his take on environmental values and his focus on climate change activism as a social movement.

Personal history

Joel's primary life stage as an undergraduate college student influences his beliefs about climate change and his personal energy use and transportation decisions. As is described in more detail below, Joel is very motivated by protests and civil disobedience on climate change and energy issues. This may be because college students are often more interested in this kind of activist behavior. Joel's life stage as a college student may also help to understand his transportation and energy use decisions. As described in more detail below, as a college student he spends most of his time in a small geographic area around the campus, which allows him to exist without a car. He also rents a home in which he does not totally control energy use, which may influence his decisions about home energy use.

Joel is very involved in the natural environment in his free time. He is a member of his college climate change advocacy club and is the president of his college's wilderness protection club. He also works as a backcountry ranger in the summers. He says that he spends most of his free time outside of work, school and advocacy in the outdoors as well, primarily climbing, hiking, and backpacking. This strong focus on the environment throughout all aspects of his life, likely reflects his strong pro-environmental values, which are described in more detail below.

Values/worldview

Environmental values

Joel's strong pro-environmental values are a key theme of this interview. Like many other interviewees with pro-environmental values, Joel believes that humans can impact the environment and they have a responsibility to limit this impact. However, it is Joel's beliefs about the rights of non-human species that really stand out in this interview (J.1, J.2, J.3, J.8, J.16, J.17). He explains that his primary motivating force for being an environmentalist is his belief that non-human species have as much right to live and thrive as humans do. He explains this belief in the following quote:

"I think the bottom line for me is, you know, climate change is kind of a symptom of what is going on. I personally view it as the overriding influence of humanity on all life is unacceptable. I think other beings need to be free from constraint of people. They need to have the option to fulfill their evolutionary potential and we can still kind of fulfill ours whatever that means."

Like Glen, Joel has a lot of knowledge about environmental issues and sees connections between many different environmental problems including energy issues, climate change, local food, eating meat, water quality, etc. These connections are important because they lead him to undertake a wide range of actions in the name of being environmentally friendly. But as he explains, the primary thing that links all these issues together and makes them matter to him is his belief that humans have too much impact on other species and they need to reduce this influence so other species can thrive (J.1, J.3).

In fact, Joel's belief in "equal rights" for all species leads him to have an almost anti-human point of view. He frequently points to the fact that people in the environmental movement (sometimes including himself) are hypocritical because while they are trying to protect the earth they are still having significant impacts on it. For example, he notes that he recently went to a major climate change activism event in Washington DC, but he and most everyone else flew there, which had a major CO2 impact. Similarly, he notes that a lot of environmentalists put others down for burning coal, but they still go home and turn on the lights – even if they use high efficiency lights, they are still "burning coal" to get their electricity (J.4). When he describes his concerns about climate change he says he is worried about biodiversity, not so much people, who have caused this problem in the first place. For example, he says:

"I am kind of embittered towards the human race because it is kind of like we are finally getting some of our own poison. Yeah, of course, I am worried about cities flooding. And, of course, on a person-to-person basis, I have gotten over being cold towards people or using that as a justification like, "ah, man, you shouldn't exist. You just ruined the world and you don't care." So, I have gotten over that but my biggest concern is the loss of biodiversity which is, you know, diversity is amazing, the amazing parts of the world we live in. It is pretty important to realize that we are not the only ones here. So, that is a big thing."(J.17)

Joel even goes so far as to suggest that if you really want to do the right thing for the environment, you would just commit suicide so you don't have any impacts on the planet (J.8). He also exhibits the strongest emotional connection to climate change and environmental issues of any interviewee in this study. He explains that he has broken down emotionally about climate change and has had to "take a step back" from active involvement in climate change activism due to his emotional intensity (J.2).

Based on the strength of his emotional connection and his belief in equal rights for non-human species, Joel has the strongest pro-environmental values of any interviewee. Joel's interview also helps to illustrate the wide variety of "pro-environmental values" and the fact that pro-environment and altruistic values don't necessarily go hand in hand as some previous studies suggest (Dunlap e al, 2000; Dietz et al.et al.., 2005). Joel's pro-environmental values are strongly focused on protecting non-human species and keeping their habitats free from human influence. This is quite different from Maya, who is focused on protecting the aesthetics and beauty of nature and Glen whose environmental values focus more generally on "living lightly" on the planet. Instead of being concerned about social justice, or equity for less powerful groups of humans, as some other interviewees are, Joel tends to lump all people together as "the problem" and be concerned about the peril of non-human species. These differences are important because they may help to explain why there is disagreement about how to address climate change and other environmental issues even among people who share generally pro-environmental and altruistic values.

Consumption values

Joel expresses strong negative emotions about consumption, corporations, and American culture (J.4, J.5, J.8, J.9, J.10, J.11). He believes that climate change is a symptom of a larger cultural problem of overconsumption and greed in American society (J.10, J.19). Joel feels that wealth is a fundamental problem with American culture. As a culture gets wealthier, he believes

that people not only consume more, they begin to organize their physical environments to force ever more consumption. For example, he explains that as communities get more money they tend to stop having public transit, people build bigger homes, and they drive more (J.11, J.9). Similarly, he is concerned about the possibility of finding a renewable, cheap, and emissions free energy source even if it would reduce climate change, because he thinks it would just make people consume more. In other words, curing the symptom of climate change, with a low carbon energy source would actually exacerbate the underlying "disease" of greed and consumption in our culture. About finding a perfect renewable energy source he says:

"The analogy is giving a chainsaw to a toddler because now you have given so much power to basically build more, move more, you only want more of all the problems that we have now, is the way I see it. I don't want that." (J.9)

Joel expresses a strong sense of hypocrisy and personal guilt that Americans –including himself-- consume so much even knowing the environmental impacts. But he acknowledges that our society makes it hard not to consume (J.4, J.8, J.12). He feels that both social and structural forces push him to consume more and have more impacts on the environment. In terms of structural forces, he notes that many communities are not set up to allow biking, or walking, or using public transit (J.7). He admits that part of the reason it is possible for him to live without a car is because as a student his whole life revolves around a five mile radius (J.14). If he lived in his home town in Oregon, on the other hand, it wouldn't be possible to not drive as the only places to shop are in a town 20 minutes away (J.7). He also feels pushed by social pressure and our overall culture to drive, and fly and do other things that contribute to climate change. For example, he says:

"I don't know, everyone has the ability to make decisions that affect the world around them and we constantly are kind of pushed to make decisions that are damaging I think so it is difficult to kind of break outside of that because the common trend is to fly for a vacation, do these things, fly home. It is hard, obviously, when your friends do it and your family expects it or whatever. It is just the nature of the way we live." (J.12)

Joel's dislike of consumption is clearly linked to the negative impacts it has on other species. In this way, his beliefs about consumption may be seen as an offshoot of his environmental values.

Social influences

Joel provides an interesting perspective on the role of social influences in behavioral motivations. Similar to Glen, he is motivated to reduce climate change and support other environmental initiatives by membership in a social group that shares his views. However, while Glen's motivation comes from membership in a social network and community of like-minded people, Joel is more motivated by being part of a social movement (J.5). He compares climate change activism to the civil rights movement (J.19). He explains that he is motivated to expand his own climate change activism and continue to be an active environmentalist by learning about other people's actions in the social movement. For example, he was inspired by a protest at the White House about a proposed oil pipeline where "normal people" not just " your typical crazy anarchists" got arrested because they care about the issue (J.5). Not only is he motivated by being part of a social movement, he feels that the solutions to climate change lie in part in increasing the social movement. He suggests that activism and civil disobedience are at least as important for reducing climate change as the more commonly proposed solutions of government policy changes and individual behavior change (J.19).

As described previously, Joel also feels influenced by social norms when making decisions about personal energy use and transportation. On the one hand, living in Missoula, he feels supported by the overall green consciousness and social norms supporting environmentally friendly actions. But he also feels pressure in the other direction. He notes that back in his hometown, which he describes as "Normalville, USA" people would not accept his decision to ride a bike instead of driving (J.7). Similarly, he says he feels social pressures to fly and drive because family and friends expect it.

Joel also feels mixed influences from his own family. On the one hand, he explains that his family instilled "baseline values" of not wasting energy. And, as a child his sister encouraged his love of the environment by taking him on nature field trips (J.4). However, he also feels pressure from his family to be less "hardcore" about putting the environment first in his behavioral choices (J.2). For example his family questioned his decision not to fly home for Thanksgiving just to save carbon emissions (J.12).

Actual decision process

In many ways, Joel's environmental values are a strong factor in his decisions about personal energy use and transportation. For example, he decided not to go home for Thanksgiving because he did not want to fly because he believes flying causes a larger contribution to climate change than driving (J.12). Even when he doesn't make the most environmentally friendly choice, he is aware of and considers the environmental impacts of his actions. For example, he describes deciding to drive rather than take a train to visit his friend in Whitefish even though the train was the lower emission option because taking the train would have meant he only got to spend one day with her instead of four (J.12). He also expresses a strong sense of guilt that he is not always as environmentally friendly as he would like to be. For example, he says he feels like driving is kind of a sin (J.14). This guilt is also reflected in his explanation of how he had to take a step back from the issue of climate change and making behavioral choices to reduce climate change because he got too emotional about it (J.8).

However, there are some contradictions in his behavior and his environmental values, suggesting that his environmental values are not always a driving force in his decision making. For example, he explains that when he graduates from college he plans to buy a truck rather than a fuel efficient small car. He wants a truck so that he can travel more and live out of his truck, so he is prioritizing personal freedom over environmental action in that decision (J.14). Similarly, he seems to have prioritized convenience over environmental impact in deciding where to live. He explains that he did not consider the energy efficiency of his house when he chose where to live, instead he just moved in with a friend because it was convenient (J.15).

Joel notes that in addition to the environment he prioritizes saving money and getting exercise in his transportation decisions. For example, he explains that he rides a bike instead of owning a car because it saves money and helps him get more exercise as well as reducing his impact on the environment (J.7, J.14).

Joel's beliefs about activism and being part of a social movement also seem to influence his decision making. Specifically, it seems that he may sometimes prioritize civic activism on environmental issues over personal behavior choices that reduce his contribution to climate change. For example, he flew to Washington DC for a climate change rally, even though he knew this produced a lot of carbon emissions (J.12). Joel specifically states that he believes activism is a key way to reduce climate change (J.19). But it is also possible that being part of

the climate change social movement subconsciously makes it easier for him to have a larger 'carbon impact' in his own behavior.

As passionate as Joel is about climate change, he also says it does not really motivate his actions on a daily basis. He explains that climate change is just too big and too intangible for him to feel like his day to day decisions really make an impact. He explains:

"I definitely think about it but, at the same time, part of the reason I bike is, I will be honest, I'd like to say "oh, I always think about climate change first and foremost." But, it is hard to see tangible… It is not like I ride my bike today and I get a little green sticker that says "you saved x amount of CO2 units." We don't get those rewards and I don't mean that we should be getting stickers. It is just hard to see how our decisions impact the greater world when it is such a big commons so I don't necessarily make decisions that are not solely based on climate change I don't think, but it is definitely a factor." (J.13)

This sentiment, which is echoed by other interviewees, is helpful for understanding why even those who feel strongly that we need to address climate change do not always do so in their own personal behavior choices.

Like the other interviewees analyzed in this section, Joel illustrates the complexity of factors that influence individual's decisions about personal energy and transportation. Even for someone who is as "hardcore" in his environmental values as Joel, his decisions are in fact influenced by a wide range of factors including social influences, personal preferences like exercise and saving money, and structural realities like a limited sphere of daily activities revolving around the university campus and the availability of public transit.

Personal energy and transportation actions

Joel's participation in climate change activism, or the climate change social movement as he calls it, is unique among the interviewees described in this idiographic section. Clearly, Joel sees his activism as a type of environmentally-friendly behavior and it is his primary form of environmental action based on this interview.

Joel's lifestyle is relatively "climate friendly" though perhaps not so much as some other interviewees who undertake a wide range of low carbon actions in both their transportation and personal energy use decisions. Not owning a car, and therefore regularly using alternative transportation like riding a bike or the bus, are Joel's primary environmentally friendly behavior in terms of transportation and energy use (J.14). In terms of home energy use, Joel says he keeps

the heat pretty low and tries to turn off the lights, but otherwise he does not seem to make efforts to lower his home energy consumption (J.15). This may in part be due to his life stage as a college student in rental housing. He is not in a position to invest in energy efficiency renovations or technologies for his house because he doesn't own the house.

Beliefs about climate change

Joel believes that climate change is a human caused problem, and this is what makes him so concerned about it. He notes that if climate change were a natural phenomenon, he might not be so worried about trying to stop it (J.17). This belief fits with his pro-environmental values, which focus on reducing humans' impact on other species.

Joel is highly concerned about climate change. He believes it could be the end of life as we know it on the planet (J.16). In keeping with his focus on the rights of non-human species, his main concern about climate change is its potential to impact biodiversity and the ability of other species to fulfill their evolutionary potential (J.16, J.17). But Joel foresees a wide range of other likely consequences of climate change beyond impacts to other species (J.18). For example, he notes many of the commonly cited impacts like glaciers melting and sea level rise. He also believes climate change will make people's lives worse. For example, he thinks there will be "climate wars" as resource availability and the livability of certain areas begin to shift.

Joel also has an interesting perspective on how climate change will impact him personally. On the one hand, he belittles potential changes that might impact him on a more personal level like the possibility that there won't be enough snow for skiing as missing the point (J.18). But he also seems to feel that the potential impacts on biodiversity are a kind of personal impact (J.18). For example, he explains that if climate change causes the collapse of all coral reefs he won't ever be able to see one. He has a similar feeling about receding glaciers. He explains:

"So, I guess when I say these things about changes that I can see, it is really hard to say that "oh, that is why I am fighting for climate change" because it is like well, is it really going to personally impact me? But, the fact that glaciers are receding, that is something that I can see and it does affect me even though it is not like "oh, I can't eat today because the glaciers are smaller." It is something that is there. I mean Glacier National Park not having glaciers, it is a big deal. It is a big deal because it does show that changes are happening and it is kind of like an indicator, I feel like." (J.18)

On the other hand, Joel notes that he likely won't feel as many impacts of climate change as other people might because he is insulated by living in "one of the wealthiest and definitely one of the most "consumeristic" countries that there is." (J.18)

As Joel's wide knowledge of potential consequences of climate change illustrates, he has a high level of knowledge about climate change (J.16, J.17, J.18). Though he says he doesn't know that much about it, the kinds of facts he shares about climate change throughout the interview suggest he has does know quite a bit about the issue (J.16). Joel mentions several places where he gets information about climate change. He has read the Intergovernmental Panel on Climate Change (IPCC) reports, which provide the international consensus on scientific knowledge about the issue (J.16). He also mentions attending classes and lectures about climate change (J.5, J.17). And, he keeps up with current energy issues as part of his activism through membership in student organizations and larger national organizations (J.19). Joel, like Maya and several other interviewees, recognizes that the kinds of information sources one seeks out and respects have a major impact on what one believes about climate change. For example, he notes that only people who have a baseline trust in science will read and believe the IPCC report or other scientific reports on climate change because the issue is so complex and the reality of the situation is broken up over thousands of scholarly articles. (J.16) As a result, people who tend not to trust science won't even read the information they would need to make an informed decision about climate change.

What to do about climate change

Joel, like Maya, believes that to really solve climate change, we need a cultural revolution rather than just technological or behavioral changes. Like Maya, Joel believes that climate change is symptom of deeper problem with overconsumption in American culture (J.19). Joel is less specific than Maya about how he would like to see society change. While Maya has a very clear vision of a better cultural model in which people are more socially connected, communities are more walkable, bikeable, and have public transit, houses are smaller, and -- as a result -- greenhouse gas emissions are lower, Joel does not present the specifics of the cultural revolution he would live to see. However, given the connections be makes between consumption and human impacts on non-human species, his prescription for culture change may be more

focused on equity between humans and non-human species and protecting other species' right to live and thrive (J.16, J.19).

Consistent with his focus on the climate change "social movement," Joel also proposes that to solve climate change, we need more political advocacy and civil disobedience. He suggests that we need this primarily because policy makers are not taking the issue seriously. He also thinks that civil disobedience might help make more people aware of the situation because protests can help to show the gravity of the situation (J.19). He believes that along with hard core activists who are out getting arrested, the movement also needs more quiet supporters, people who might write a letter or two or just support the inner core group (J.6).

Joel notes that like any social movement many different tactics are needed. He lists three other key areas in which he believes action needs to occur: government policy, individual behavior change, and education (J.19). Interestingly, he spends the least time talking about government action. He clearly believes government action would help, but he is frustrated by the lack of action by governments. He only briefly notes that we need international negotiations on greenhouse gas emissions but then jumps right back to the importance of protests and social action to make government leaders realize the importance of the issue. This may reflect his belief that government action is unlikely until the climate change social movement grows.

Joel also focuses on the importance of education to raise awareness of the issue of climate change, its likely impacts, and the connections between individual behavior and climate change. He particularly focuses on the need to help people see the specific impacts of their individual behavior choices and how those impacts are magnified when lots of people do them. This focus may stem from his own experience of feeling like the impact of his own behavioral decisions is intangible in the face of a global issue like climate change (J.13).

Joel also notes the importance of individual behavior change in addressing climate change, but he seems to have mixed feelings about its efficacy. This may again reflect his feeling that individual action is quite small in the face of a global-scale problem. On the one hand, he notes that individual behavioral choices are a way to "fight the corporations" and the whole cultural system he does not like and create the society you want to live in. For example he says:

"…every time you ride your bike, every time you eat a local meal with food from this area, every time you like have a potluck at your house and encourage people to make the food, you are contributing to a better world in that sense. Every time you shop at the co-op or the

Good Food Store to some extent or at the farmer's market which is probably the most important, you are contributing to that type of society that you want to live in." (J.5)

Similarly, Joel believes that we should "blame ourselves more." It's not just the corporations or the government, or the system he explains. Every individual is either part of the problem or part of the solution every time we make a decision about our own behavior (J.8). On the other hand, he talks about individual actions such as riding your bike, growing a garden, and buying local food, as if these things are small and ineffectual compared to the scale of the climate change problem (J.19). And he goes on to suggest that climate change is the ultimate tragedy of the commons, a collective problem that has to be solved collectively, as if proposing that individual action won't really have that much effect (J.19).

Finally, Joel is very clear that he does not believe technology or innovation will fix the problem. This likely reflects his belief that climate change is just a symptom of the larger cultural problems of greed, overconsumption, and a disregard for other species. For example, while many might like to see a technological solution to stop green house gas emissions like totally clean, renewable energy source, Joel does not want to see this happen. As described previously, he thinks this would only exacerbate human impact on the planet by making it easier for us to drive more, build, more and consume more. (J.9)

Summary

Joel's interview provides some very interesting insights on motives for climate friendly action and beliefs about climate change. First, he is strongly motivated by being part of a social movement to address climate change. This is an interesting expansion on the previously studied role of social norms on individual's beliefs and behavior. Joel also introduces the idea that activism and civil disobedience are forms of climate friendly action. This interview is also important because it helps to illustrate the variety of pro-environmental values. While Joel, Maya, and Glen all hold strong environmental values, the specifics of what they value about the environment differs. This may help to explain why even people who agree on the need to address major environmental issues like climate change may have difficulty agreeing on exactly what solutions should be implemented.

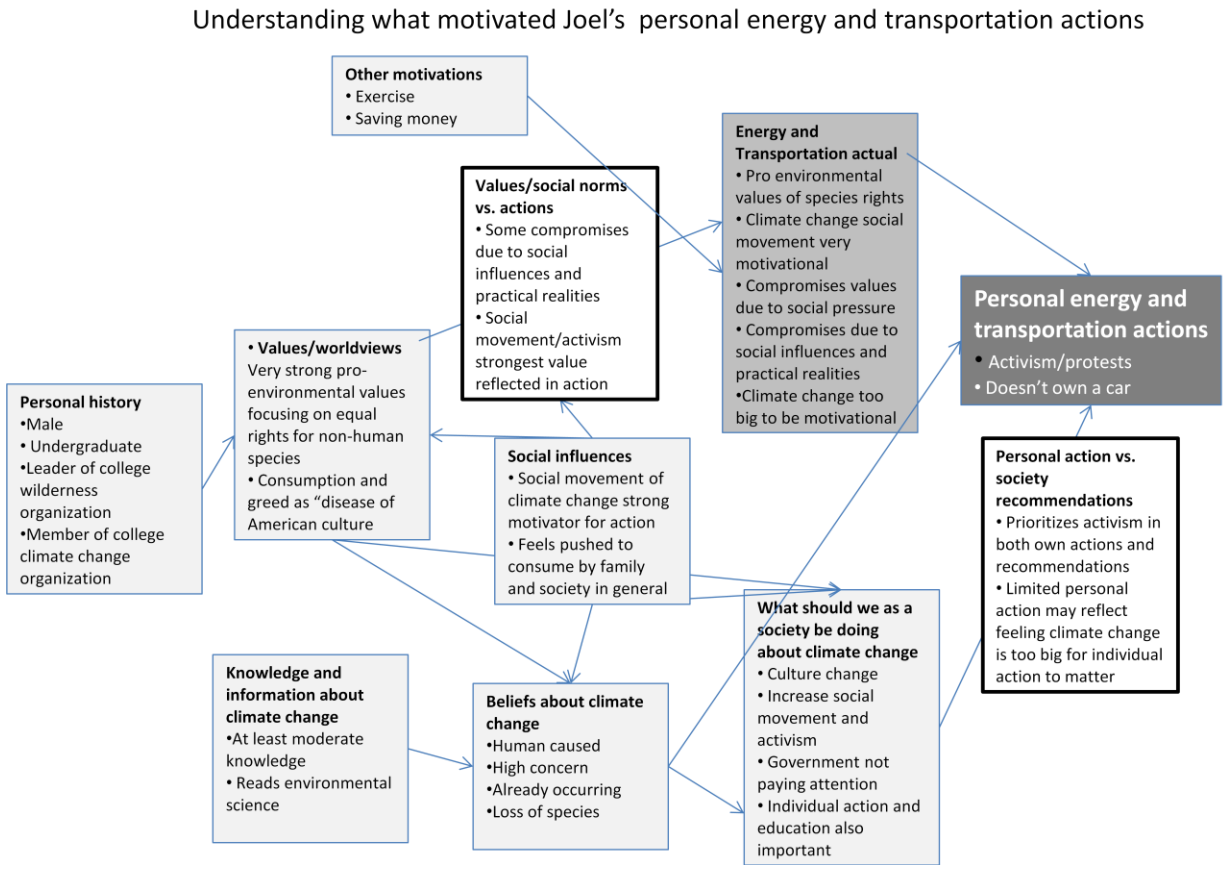

Figure 4.3 *Joel idiographic organizing system*

Joel Quote table

J.1 Environmental values – interconnections of environmental issues AND wilderness and species protection are core issue

Joel (J): I don't know. I guess for me it is all intertwined. My involvement in the climate change stuff; my involvement in the trucks coming through here which I see as a direct link to climate change disaster, a.k.a. affecting our future, affecting the future of all the other life on our planet, so I kind of do wrap those up because my motivating force is not so much the fact that I am not the type of person who really cares, I do care about healthy streams for people to look at or fish in and clean air around Missoula, that is all good. But, my motivating – me personally – I find my motivating impetus comes from the idea that our influence is overriding and we need to cut back our influence on the world and other species need to be able to thrive. So I do see them as all connected. I think they are personally, too. I mean if you look at it in the sense the Sierra Club is a good indicator. When the Sierra Club was first started it was like John Muir protecting wild places in California. Well, now, they are one of the lead organizations that are against the Keystone XL because that is what is relevant today and it is kind of like the hot topic, like climate change. So, what changed? I just wanted to say that because I feel like I kind of look at it all in a ball.

J.2 Environmental values – strong emotional connection

J: [Explaining why he has backed away from involvement in the student climate change organization a little] Just basically to sum it up, I was too personally invested in it. At one point, I think I talked to my family at the dinner table and I was like " this is crazy", I don't know what I was talking about. I think it was climate change or something and I was like "Do you guys not care that in 2050 we will not have coral reefs in our oceans? Like, is that a big deal and do you even care about that?" They were kind of joking. They all care but it is like "why don't you care more?" I actually broke down and started crying at one point. My brother told me later that "I think that is a little too much, man. You can't be like that all the time. I think you can every once in a while."

J.3 Environmental values – connections he sees between climate change and wilderness

Interviewer (I): You mentioned a couple of times places that are important to you and wilderness protection and that kind of thing. How does that tie into your thoughts about climate change or why climate change is important to you, or does it?

J: Well, there are a lot of interesting things about climate change and wilderness. One thing is more like academic but it is the idea that wilderness is this stable state, it does not change. Therefore, climate change kind of brings into question a lot of that. So essentially you might have to essentially take a new approach to defining what wilderness is. It is not so much just this place that we leave totally unaltered and is totally unaffected, like free from… I guess I think about [names person]'s book with [names person] about naturalness. I hope it get this right: free from human results, human impact unintentional or intentional. Or basically unintentional – just the human effect on the land. One is kind of "What is Nature?" It's pretty important because a lot of people talk about "aw, I care about nature" and the natural world. But, what exactly is that natural world and why do you care about it? So, free from human impact, climate change totally calls that into question so there is no place on the face of the planet that is not affected by humans if you look at it in that view. And you can also look at air pollution or whatever as other things as examples of that. Definitely that type of thing and understanding that climate change directly impacts wilderness areas. Of course, it definitely impacts wilderness areas and have the whole idea should we assist the migration species is a big deal. Should we move species A to this location because we think the climate is going to move it there or it would move there if it could but can't because of a mountain range. That is a big deal and I honestly think no, we should not. We should let things die out. I do like the idea of biodiversity but I don't think we can really save biodiversity. It is like a Band-Aid. Someone is suffering from multisystem trauma injury like their leg is broken, their hand is broken or whatever, you are not going to just slap a Band-Aid on it. "You're good, dude. Walk home." You know, you have to call 911. You have to get the whole deal going and I think that trying to solve things like biodiversity or species extinction, at least in the local area, trying to solve that through assisted migration is not acceptable. I think basically there are a lot of things that play into how we look at wilderness and how we might deal with climate change in wilderness areas that kind of puts a lot of stress on wilderness and like whitebark pone mountain pine beetle it is going to go up in elevation when climate change increases our temperature because it can't kill the beetles in the winter and we don't get those hard freezes. Yeah, that is going to have some influence on wilderness areas and we'll see more red trees. I don't really care about that [visual impact of red trees] but, like our pine being completely gone. It is related but it is not really because the biggest thing is the blister rust coming in but climate change might have… You know, the blister rust comes in and weakens the

trees and they are more susceptible to beetles which are connected to climate change because now they can exist at those high elevations. So there are all these links and they are kind of hard to decipher. I think the biggest thing about climate change is, I mean, actually, sometimes they are hard to decipher; other times, not so much. I mean, think about the pica. There is the possibility that the pica is going to be gone. That is a big deal. That is a wilderness species. I mean it is typically in those high elevations talus slopes or whatever. The pica is gone. The wolverine. You know, there are connections there that will definitely be a factor. It is hard because with climate change, how do you connect those pieces of the puzzle? There are so many other factors. Say it warms; say it cools. That brings in a different species and maybe facilitates non-native invasives, disease spread which then has some impact here, I don't know… Yeah, it definitely is a factor. It really is something that contributes. As I said, my impetus and a lot of my motivation comes from the idea of protecting wild places and if I see a threat to wilderness as the overriding influence of people and climate change is one of those influences, I think it is definitely connected.

J.4 Consumption values and Environmental values – culture is greedy AND social influences - family influence, AND recognizing hypocrisy of environmental movement

J: Good question. I don't know. It is like people ask me "why are you an environmentalist?" and I don't really know. I think basically it is just a progression. For me it is pretty obvious. I think my parents have always been pretty good about just not necessarily… My parents are not environmentalists, really. I am more on top of learning about climate change and learning about…I am probably more interested in wilderness protection which is pretty much unrelated to, slightly related, but not directly related to, energy use. I am more involved in those issues and kind of the activism side of things than they are for sure. But, I think they just have the mindset of you take what you need, you know, and more just because of like economics or the idea that you don't waste things. You turn off the light maybe because it is going to contribute to global warming but just because it will save us money and there is no purpose for the light to be on when we are gone. Therefore, it is just going to waste money and energy and energy is part of that, too, just wasting in general. I guess my parents kind of instilled those baseline values. My sister would take me out into the woods and "we are going to take water samples of this really weird-looking pond" so I was always kind of in to that because my sister is 6 years older than me. I think she kind of inspired me in that regard. There has always been, for me personally, a connection between the places I care about and what I do; and I feel like, as I learn more, I realized that so many things we do today are harmful to the places I care about. It is not just as simple as "oh, we need more national parks" or "we need more wilderness areas" or "we need to not clear cut everything on the face of the planet." It is not that simple. The problem is within society, it is within our over consumption. It is basically whether you call it greed or not, I feel it is pretty greedy whether or not we put that in perspective or not. Most people probably wouldn't call it greedy. But I guess as I learn more about the connection between what I do and how it makes an impact in the world around me, it just seems to be a natural progression to see that. I guess it is frustrating, too, because at times I feel like a lot of people see those connections and then it is really hard to act on them or people don't even care which is totally different. But for me personally, I guess – I don't even know what the question was….

Yeah. I guess climate change is pretty obvious. It is going to affect the whole world. Well, I was just like well if it is going to really impact everything, then I probably better learn something about it. Which is funny, because even the members of [campus climate change organization],

which is like the flagship in the climate change club, we don't know a lot about climate change. We are not experts, but it is basically kind of a cult in a way. It seems pretty obvious why I get involved in that sort of stuff and why I care to some extent. I think a lot of people, I don't know, I feel like a lot of people will…there is a lot of hypocrisy that goes on with environmentalists and even the term environmentalist is kind of like uhhhhhh [as in yuck]. "I can't believe you burn coal" but I am going to drive home, I am going to turn on my light and I am going to change my light bulbs but that's just a fraction. And if you look at the energy consumption over time…It started off our energy was like what we ate. Then we discovered fire. Our energy is, so then we burn some things and then we had a house. And then we had indoor heating. Oh, then we find a way to transport besides using just horses or whatever. It was like exponential function. As we get more money, it is more tempting to use more resources.

J.5 Social influences – social movement aspect is inspiring AND anti-consumption values "fight the corporations"

I: How do you kind of keep motivated to stay involved?

J: Well, that is a good question. I did drop out of, well I didn't drop out but, I actually haven't gone to any of the UM CAN meetings this semester and the reason for that is I am the President of the University of Montana Wilderness Association, which is an organization in partnership with the Montana Wilderness Association which is a state much bigger organization, and we work on wilderness issues throughout the state and beyond the state as well to some extent. So, I see that is connected for me personally. I know that a lot of people don't see that connection but I have dropped out of the club [UM CAN] per se, that kind of involvement, but Power Shift was motivating to some extent, being around a group of people that were psyched from around the country and I think more importantly seeing speakers like I did meet Bill McKibbon there. I was just walking along the street and my friend was like "Hey, Bill" and I turned around and "Whoa, Bill McKibbon. All right." Shake his hand.

I: Celebrity of climate change.

J: Yeah, so that was kind of cool. He was like: "Yeah, it was a good day today." So that was cool. Reading helps but sometimes not because you can only read so much about issues and stuff. I don't know. What excites me, oh, actually, this is pretty inspiring. Wasn't it like 18,000, 12,000 people? I just read this, I should know, but it was at least 5 digits of people that surrounded D.C. saying that we don't want the Keystone XL pipeline – or not D.C. but the White House – and over 1,000 people were arrested a few months ago. And not your typical just crazy anarchists getting out there hating the world but normal people getting arrested just because they felt it was time. I think that that is pretty motivating. It is pretty inspiring. It is only going to build and whether or not it is going to build in time to really prevent bad things from happening, I don't know. But that is inspiring to see other people and being around other people – I was pretty involved in "all against the haul" stuff last semester. I see it is connected, you know, it is kind of like three spheres to work in. There are the personal decisions. I don't know if it is three spheres, I guess. But there is advocacy in the sense of like I am going to go out and advocate. I am going to write letters to the editor, sign petitions, write my representatives to try to make those bigger level policy changes and that is a lot of what UM CAN does and what I have done a little bit, well, a fair amount in the past, phone banking, making calls, annoying people during their dinner. The other way of making changes is personal decisions like whether or not you are going to ride your bike, whether or not…I like what NAME REMOVED who was an instructor on campus said in one of his classes, actually in guest lecture – I did take one of his classes – but

this was during a guest lecture and he said something about like, "you know, you can fight the corporations, not necessarily by going out and picketing," that is important and that type of fight is really important but – and by corporations I mean kind of that whole system of bad that I kind of push into one genre – but what he was saying was that every time you ride your bike, every time you eat a local meal with food from this area, every time you like have a potluck at your house and encourage people to make the food, you are contributing to a better world in that sense. Every time you shop at the co-op or the Good Food Store to some extent or at the farmer's market which is probably the most important, you are contributing to that type of society that you want to live in.

J.6 Social influences – climate change as a social movement

J: We are definitely passed 350. That was the number. It is aggressive, you know, it is a number that we are shooting for. It is pretty radical, probably not. But it is a number that we should be going for and instead it is just on this trajectory that is crazy. So I am getting on a tangent here but, yes, I do talk about things like national issues with my family. I don't so much, it has to be people who kind of…take my sister sometimes, she definitely thinks eye to eye with me but she just can't handle it. She just wants me to shut up but she's like so what are we going to do about it? She is not willing to just take on that kind of thing. She told me that at this point in her life, she knows that stuff exists but she doesn't have the energy or the will to really work on it. "Okay. I'm going to get people to start writing letters. I will write a few letters myself." Which makes sense. Within any movement or policy change, there is like a core group and then there are people on the outside that support that core.

J.7 Social influences and structural/societal factors – green movement in Missoula vs. lack of green movement in his hometown AND lack of options for non-vehicle transportation hometown

J: It is interesting because Missoula tends to have this kind of group think. I think it is on campus and in a lot of places it is being green is becoming trendy. I don't know, I feel like I just kind of caught the tail end of when green was not cool. But, before 2000, I remember I would talk about recycling or I would ride my bike. I grew up in a town that was pretty much "Normalville, USA." It is not like Missoula. There is no local food. There is no farmer's market in my town. When I go to WalMart I see at least one person from my high school guaranteed. Even if I go back now I will see people that I recognize and, you know, it is because it is the only place to shop and that is not necessarily – that is connected to energy use but because in order to get to WalMart you have to drive 20 minutes. So it is kind of interesting. It kind of killed the small town aspect of the town but, getting back to this town that I grew up in. It is not like Missoula because it doesn't have the group think mentality that is so prevalent here. Here, I think people don't really have to question so much their beliefs because of course it is a good idea to ride your bike. For the most part, at least a lot of the people that I associate with and that could just be a result of being the college of forestry and conservation and being involved in student groups and stuff. But I would say for the most part people aren't like "why are you going to bike to campus?" versus I would get that at home. I would get like "you have a car now. Why don't you just drive your car?" I am like "I'm saving money and getting exercise and it is better for the environment." Top three reasons. And they're like "why?" There is just not that consciousness there. People don't see the connections and, if they do see them… You know, I think people obviously are the result of, yeah, there may be some predisposition for something, but also

heavily impacted by their surroundings especially when they are young. So when people grow up, their families don't recycle or don't care about that, then they probably are not going to either. So even if you talk with a friend it's still not going to, if their family doesn't know how to work on bikes, they are not going to have a viable option there if they don't have the money to buy a bike or their parents are not really supportive of a bike. Oh yeah you should get a bike, not they'll say, you should save up for a car even though I know it is a piece of crud and it is going to break down in a couple of months or something.

J.8 Consumption values, societal forces, and hypocrisy – we should blame ourselves more

J: Basically what happened was I think I was too personally invested in it and as far as just "what is going on? This is crazy. We need to do something." It was kind of a negative thing because it was like taking the weight of the world and kind of putting it on you and saying, because I do think that one of the biggest critiques – one of my biggest critiques – is that when people kind of point fingers elsewhere, most people are pretty good about this who are educated on this kind of thing on the issue of climate change or energy use and what its effects are – but often we don't blame ourselves enough I think, you know. They say it's the corporations, or the system, or the government won't, well, you know, we are pretty much part of it every time we make a decision, we are part of that either the solution or the problem. I think people don't necessarily look inside enough and I guess I was almost looking inside too much and it was like it is all on me. If you look at it super hardcore, and I am not saying that, but if you do, and obviously this has been talked about in environmental discussions, it is kind of like you should just commit suicide if you want to do the best thing for the environment. You can't look at it like that. You just can't do it. It is not a healthy way to approach the issue. I guess what I am saying is if you feel like your decisions are painful, you know, then you probably shouldn't do it because -- maybe you should – but I guess to some extent you could be like the ones pushing the envelope like civil disobedience or social movements is what I am thinking about. Those first people who step up and make that change, it is painful or it does take energy and it may not be a positive thing. It may not be a cheery and laughing kind of positive. But, I do think if you are taking it on yourself so much that your happiness is affected, you have to step back, and be like it doesn't really matter. It does matter, but you personally have to put it into perspective by saying there have only been like seven extinctions in the history of the world. Does it really matter that everything goes down? Who knows? Maybe there won't be humans. I don't want this. I am not saying this is good but I am saying that it is a viable thing to think about. We could get hit by an asteroid tomorrow or we could discover that climate change is coming (and I am not saying that this is what is happening) but what if we did figure out that climate change was a natural, i.e. nonhuman occurring thing. Would we really freak out as much? I don't know. I think a lot of the whole idea behind our reaction to the issue of climate change is the fact that it is caused by us. So if an asteroid hit or something that wasn't as acute, or something that was more long term, I think a lot of the blame would be like "oh, we should just kind of let hands off and it's ok." I personally don't think that is a good option but, I guess I find some solace in that. If it all goes downhill. It's okay. It will just rebuild itself although it will take another couple of million or billion years.

J.9 Consumption values and what to do about climate change – there is not a technological fix to climate change, we need to consume less even if it were carbon free

I: Do you find the issue of energy security or energy dependence important or motivational?

J: Yeah, it is definitely related for sure.
I: Like dependence on foreign oil.
J: Yeah. I don't like the idea that we have to be in Iraq for oil but that is a different topic. So, yes, I think it is important that we do have our own energy; but, that is no excuse to drill ANWAR, that is no excuse to go into the tar sands. We are going to run out of oil. We are going to have to figure out something with oil. Maybe we could go longer with coal. But, if we do that, it will mean the world is going to like cook from what I have heard. It is important and I would like to see it go in the direction of localized energy utilizing the resources in your area. I think there is a place for, you know, we already have a really effective system to transfer energy over a long way – power lines that we move energy from a dam way across the country. I think we can utilize that stuff and it doesn't all need to be in my backyard, but more localized the better. We should be investing in renewable energy sources – geothermal – not necessarily biofuel and that kind of stuff, but geothermal, solar, wind. Wind now makes up more than 1% of our energy consumption. That is great but that is not enough. OSU is looking into … I bet a bunch of places are… I remember four years ago writing a paper on renewable energy in Oregon and OSU is looking into tidal buoys that go up and down. Yeah, we need to look into that. Here is something to think about: why are we trying to move towards renewable energy? Is it because we are going to run out? Is it because we want to make sure we have enough energy that we don't have to rely on Canada in case they freak out or in case we don't want to be in the Middle East, etc.? That is not so much a motivating force as let's get off this so we can have a better place to live. To me that is more important. I guess they are inter related, but what I am saying is that I don't want renewable energy to be… A friend once told me that finding the perfect renewable energy source that is 100% clean (I don't think it can ever be 100% clean), super cheap, free, say easily harvest the energy from the sun in a super-efficient manner like this much to supply a city. The analogy is giving a chainsaw to a toddler because now you have given so much power to basically build more, move more, you only want more of all the problems that we have now, is the way I see it. I don't want that. Yes, we should move towards renewables and that is great, but ultimately, energy independence is important but I wouldn't say it is necessarily…it depends on how you go about it. To me a lot of problems don't have technological solutions and I believe this one, energy, where it comes from, etc., does not have one. To me that needs to be reformed at least within society. It just can't be, oh, we are going to find some sort of plankton that helps us out because there is going to be something else. Say everything was super cheap, energy was super cheap, then what is going to happen is that everyone would drive everywhere and all of a sudden you could heat your home super easy, then everyone would get bigger houses because it would be that much cheaper. These restraints that are placed on it, I mean it is good that fossil fuel goes up to $5 a gallon. I would prefer that. I don't personally want that because that is a burden on me but, if it means we reduce our consumption, it is a good thing. So, the same thing is true with a lot of renewables. Nothing is truly renewable. It is taking up space or it is utilizing some energy that the earth is receiving and it can spur increased development which I don't think is good.

J.10 Consumption values – climate change is a symptom of society not the problem itself
J: Yeah, climate change is a symptom as in… You know, some people would identify climate change as the problem. Some people would stop there. Well, what really is the problem? The problem is whatever hurts or hinders us. So the problem is coral reefs going down, no tourism in Jamaica, that is the problem. Another problem is I can't grow rice because sea water is coming in. Another problem is weird weather, you know, tornadoes, hurricanes, whatever. Boom. These

are the problems; but, then if you take it back and connect those to climate change then you kind of see climate change as the overriding problem. Then if you think about what is the cause of climate change? Well, the cause of climate change is the fact that we use too much energy and we emit too much CO2 and other greenhouse gases. So, that is a problem. But, then if you look at, I personally think if you look at that and then look at the cause of why are we emitting these greenhouse gases, then you see that the problem is the way society is formed, the way that, obviously, we have to drive so much, we tend to fly a lot, all of these things, that we just moved in that direction for whatever reason. I have a laptop; it requires energy, I use the laptop. We use computers more than we did 15 years ago. That is just the way we are headed and I think that in and of itself is the root. Obviously, if you trace it back, it is the root. No one can say if you believe there is a connection between people, i.e. CO2, greenhouse gas emitted whatever, methane, etc. and climate change, then, if you believe there is a connection there, you have to take it one more step and say this is the problem. So, if you look at that and you look at society and you do see that that problem, you know, it doesn't stop climate change, it is within society and therefore, if we want to fix climate change, you shouldn't just attack climate change. We should attack from where climate change is coming from. But, more so than that, looking beyond the cars and the renewable energy, we should actually look at society and say what is wrong with this model? After, climate change, I mean climate change seems huge right now. It seems like the biggest issue as far as like scale-wise goes and mass effect goes. It is one of the biggest ones. But, I guarantee you there are going to be other things, like climate change once we get rid of climate change, I personally think if we were… A good example would be like if we did change, geo-engineer our climate and say we could do it really effectively and really safely, the climate wouldn't be changed but then we would realize, okay, so that we could control the temperature and fluctuations in the weather over a long period of time or the climate somewhat, but say the gasses were still there, so we would still have the coral reef problem. And we would still have whatever the other problems may be. Just like ozone pops up and acid rain and all of things. I guess I am just kind of pumping them altogether. So for me, it is more interesting to think about it that way and it seems more effective to think about it that way.

I: That is very interesting.

J: It is not necessarily easier. Most people, quite frankly, probably don't care about radical reform of society. Most people are pretty content. That's fine but it is a little deeper.

J.11 Consumption values – wealth results in less public services AND wish for better planned communities

I: So, in an ideal world, how would you like to get around if you didn't have any kind of restrictions?

J: An ideal world? Well, my brother actually works on electric bikes. He words on electric bike motors in Portland and it is not a bad way to go. I do like biking. I think it is healthy, obviously, even if I am so busy I feel like I can't exercise even though I probably do have the time. It is like I have to get to school so I get at least a 15-minute bike ride in. I like biking a lot. I think what is key is you know effectively-planned communities. Are people really working on, like okay, where is the grocery store going to be, how is it going to be accessed, can we bike to this location? So, ideally, I guess I would bike and walk most of the time. I do enjoy driving a car from time to time on trips, just having the freedom to go on back roads or whatever. I do think that is not a super evil thing although sometimes I feel like I do see it as a necessary evil. Ideally, public transit in other countries is definitely way better. I have lived in India for a little bit. I was

going to school at an international school there and it was super easy. Sometimes we would take a taxi but most of the time it was local buses and it is kind of a population density thing, too, and just the fact that most people don't have cars. So it does make sense there to. It seems like that is how things work. Once people get too much money, I don't know…. The public services that are there for people who don't have a lot of money start to dwindle. Ideally, we would have really good public transit when needed whether that would be trains or buses, I don't know about airplanes. And then good bike paths so you don't have to fight cars on the road and then just probably the key that you make sure that you don't have to really transport that far.

J. 12 Actual decision process – troubled by hypocrisy and difficulty of not having impacts – not flying home for thanksgiving

J: Yeah. It is very similar. But, it is kind a cliché. But it is a good organization of students that want to do something and not all that we work on is climate related but what I am getting to is we went to this national power shift conference in D.C. last spring I believe and it was a cool conference. But, it is kind of ironic that we are asking for a power shift and everyone – the vast majority – everyone from the West coast flew. It's like, wait a minute here. I think people in the movement have picked up on that. But, at the same time, I think a lot of these people are not at the point where they are going to sacrifice flights. From what I have heard and from the research I have done, flying is a big part of our emissions as far as CO2 goes. It is kind of crazy. You can like double your whole CO2 emissions in a few flights – I don't exactly remember the stats unfortunately -- but I remember when I was going to Australia, when you get to Australia, you are kind of hanging out with these hippie people and "yeah, the earth…" but then everyone, like a lot of these foreigners had to fly on big jets to get here and it is kind of ironic. But, as far as making those decisions, it is hard, it is really hard. At one point, it was like "no, mom, I don't want to fly home for Thanksgiving." It is pretty cool to say that and I did want to go home but it was like I am going to try to find a ride but if I can't find a ride, then I probably should just stay here because it just doesn't make sense to fly around the country. I was probably a little more hardcore, but about a year ago, but I personally, I don't know, everyone has the ability to make decisions that affect the world around them and we constantly are kind of pushed to make decisions that are damaging I think so it is difficult to kind of break outside of that because the common trend is to fly for a vacation, do these things, fly home. It is hard, obviously, when your friends do it and your family expects it or whatever. It is just the nature of the way we live. So, yeah, it comes close to like it is a factor I guess and I did consider taking the train home but you have to get to Whitefish and it is a pain. I considered over the summer, my girlfriend lives in Whitefish and I considered visiting her via the train but I didn't because it was basically the same price as me driving and with me driving it would save two days and I only had five days off of work. So, it was like do I want a one-day vacation or a four-day vacation? Yeah, I think about it; but, unfortunately, sometimes it is hard to just go with the better alternative I guess as far as personal transportation.

J. 13 Actual decision process – climate change not that motivational because it feels too big

I: Would you say that you think about climate change when you make decisions about transportation or energy? Does it play a role in how you decide what to do?

J: Yeah. I definitely think about it but, at the same time, part of the reason I bike is, I will be honest, I'd like to say "oh, I always think about climate change first and foremost." But, it is hard to see tangible… It is not like I ride my bike today and I get a little green sticker that says

"you saved x amount of CO2 units." We don't get those rewards and I don't mean that we should be getting stickers. It is just hard to see how our decisions impact the greater world when it is such a big commons so I don't necessarily make decisions that are not solely based on climate change I don't think, but it is definitely a factor.

J.14 Transportation actions and decision process

I: So, how do you mainly get around town?

J: By bike. I don't have a car. I pretty much bike everywhere although my girlfriend does have a car and I will catch a ride with her from time to time. Then I used to live really close to the Park & Ride just by, you know where Dornblazer [?] is, so I used to live on Livingston, right by there. It was super easy to catch the Park & Ride and so I would take the U buses from there. Where I live right now I have to catch two buses and it takes like 39 minutes to get from my house to downtown. It is about a 15-minute bike ride. So hopefully I don't have to not bike too much during the winter, not looking forward to that. Yeah, that is pretty much it. Occasionally I walk but try not to; usually it is when I have a flat tire.

I: Tell me about your decision about not to have a car.

J: Well, I don't think is that necessarily…it just works for me right now. In all honesty, I have enough friends or friends who are interested in getting out--I don't know if I have enough friends or not! – but I have enough friends who want to get out. So if I want to get out on the weekend, it usually is not a problem to borrow a car or catch a ride with someone else. Around town, I would rather save the money. Although, I am thinking…. It is easy not to have a car when most of your life revolves around campus and like, you know, maybe within a 5 square mile radius. But, this spring, hopefully, I can get a truck for road tripping and stuff after I graduate.

I: You mentioned a truck. What would you like to get whenever you do get a car?

J: Something affordable, hopefully a good gas mileage kind of a truck but something with a canopy that I can sleep in the back if need be. I also thought about getting a minivan and turning it into a camper but I don't know. I have had friends that have some. You can get them more outfitted for road trips. That is not the only reason I would get it but I don't necessarily see myself being super stable in the next few years after I graduate so it would be nice to have a vehicle that I could live in or at least sleep in on trips.

I: You mentioned fuel economy; tell me a little bit about why that is important.

J: Well, financially that is really important. I do kind of feel whenever I drive a car, "ah, I am committing a sin here." But, I don't know, the better the gas mileage the more money you save and the better it is for our atmosphere, our surroundings for sure.

I: So, in an ideal world, how would you like to get around if you didn't have any kind of restrictions?

J: An ideal world? Well, my brother actually works on electric bikes. He words on electric bike motors in Portland and it is not a bad way to go. I do like biking. I think it is healthy, obviously, even if I am so busy I feel like I can't exercise even though I probably do have the time. It is like I have to get to school so I get at least a 15-minute bike ride in. I like biking a lot. I think what is key is you know effectively-planned communities. Are people really working on, like okay, where is the grocery store going to be, how is it going to be accessed, can we bike to this location? So, ideally, I guess I would bike and walk most of the time. I do enjoy driving a car from time to time on trips, just having the freedom to go on back roads or whatever. I do think that is not a super evil thing although sometimes I feel like I do see it as a necessary evil.

Ideally, public transit in other countries is definitely way better. I have lived in India for a little bit. I was going to school at an international school there and it was super easy. Sometimes we would take a taxi but most of the time it was local buses and it is kind of a population density thing, too, and just the fact that most people don't have cars. So it does make sense there to. It seems like that is how things work. Once people get too much money, I don't know…. The public services that are there for people who don't have a lot of money start to dwindle. Ideally, we would have really good public transit when needed whether that would be trains or buses, I don't know about airplanes. And then good bike paths so you don't have to fight cars on the road and then just probably the key that you make sure that you don't have to really transport that far.

J.15 Home energy actions and decision process

So I am going to switch over to home energy use if that is okay. Do you live in a house or an apartment?

J: I live in a house.

A: Are you renting it or buying?

J: Renting. I live with two other housemates.

A: Are your utility bills part of your rent or do you pay them separately?

J: We pay them separately.

A: So you have control over like you can control your own heat and that kind of thing. I ask that just because some questions just aren't that relevant like if you live in an apartment and you don't get to control your own thermostat or something like that. What appealed to you about this house where you live now?

J: Well, basically, my friend just gave me a call and said do you want to move into a house with me and one other housemate? And I am like, okay, sure. It was all set up and I didn't really have time to look for a place. It was basically just convenient. It is not a bad location. I live on the west side so it is close to the train tracks but it is kind of a cool place. I guess in the energy scheme of things I wasn't like "oh, how efficient is this home?" But, I was a little concerned about how much we pay for utilities that is for sure. It is kind of weird because our landlord lives downstairs and we pay the bill for our utilities and our gas and electric and his gas and electric is the same bill. That kind of, I don't know. I have gone down there twice to leave off rent checks and both times all his lights are on and he's gone. I'm like I do not want to pay for this.

A: So he doesn't pay you back for his?

J: No, and that really kind of sucks because he can do whatever he wants. There is no incentive for him to make the decision to turn off those lights. I was kind of hesitant but it works out because he pays for our internet and the water but those are pretty much a fixed rate and don't increase in the winter but, whatever, it is something to consider I guess.

A: That is interesting. How do you guys make decisions about energy use in your house? Or do you talk about it together or does everybody just kind of do their own thing – not including your landlord sounds like you don't have a lot to say over him.

J: No. We don't really talk about it. I did mention to my housemate recently that she could turn off the stairway light but it's like I am telling my dad. "Did you turn off the light?" "Aw, I don't know." "Well I better go check." Other than that, we haven't really said like "okay, we are going to set the thermostat at 55˚." No, we haven't done any of that. Basically, in the downstairs at least we just have one natural gas stove and then we essentially just turn that on whenever we are there. Sitting next to the stove for some reason is like a rare occasion. But, who knows what is going to happen…. I have never walked in the house and have it like 70˚ and no one is there.

So we pretty much turn it down to 50˚ or something like that unless we are there in the room. I don't have heating in my room there is not vent there.

J.16 Beliefs about climate change – possible impacts AND Environmental values – overriding influence of humans on all life is unacceptable AND climate change not his motivation compared to species rights AND Information/knowledge about climate change – requires baseline trust in science

Honestly, I don't know a whole lot about it which is kind of unfortunate. But, then again, we all know at this point it is happening. The earth, with my understanding, I read this in IPCC report that we have gone up 1˚C on average. But, basically, we don't know what is going to happen. It is like I went to a lecture on Geo- Engineering our climate and it was like two years ago and the ethics of it Should we really be investing in this or no. And she was saying it is kind of like flipping a spinner, you know. There is a chance that climate change really couldn't be that bad. Or there is the chance that all life on this earth is pretty much gone. And like it collapses. And maybe we really have no idea. We can predict and make theories and people are getting paid money to do that. I think the bottom line for me is, you know, climate change is kind of a symptom of what is going on. I personally view it as the overriding influence of humanity on all life is unacceptable. I think other beings need to be free from constraint of people. They need to have the option to fulfill their evolutionary potential and we can still kind of fulfill ours whatever that means. I guess climate change is important to me, but it is kind of only important to me because it affects other things. It is not like…I am one of those crusaders like [names a person at the university] "oh, climate change is my issue. I love climate change. I research it all the time." To me, it is more like sort of a burden. I had better know something about climate change because that is what is going on. Everyone talks about it but no one really knows about it honestly. Even people take like 101 Climate Change class, I know the general theory why the earth has warmed up. The blanket is getting thicker. But, it is interesting that people are so uninformed on a complex issue like climate change. It is hard, as not being experts, and the nature of the issue is really interesting because you have, I don't know, hundreds of thousands of articles that all piece together what is going on that are all done by experts and really we can't decipher it. So if you don't have that baseline trust in science, you are not necessarily going to believe the IPCC's report.

J.17 Beliefs about climate change – most concerned about impacts to wildlife, less concerned about people

I: I am interested in kind of what do you think is going to happen, what worries you about climate change?

J: Let's see. No glaciers in Glacier National Park. I worked as a backcountry ranger in North Cascades National Park and there are over 300 glaciers in the Park there and much of them are going to be gone. Well, actually, I mean there are some areas I guess in the Sierras that there is a chance that the snowpack would increase and I guess that could accumulate to increasing glacier size. What I am mostly worried about is the decline in biodiversity in general and its effects on people. I don't know. I am kind of embittered towards the human race because it is kind of like we are finally getting some of our own poison. Yeah, of course, I am worried about cities flooding. And, of course, on a person-to-person basis, I have gotten over being cold towards people or using that as a justification like, "ah, man, you shouldn't exist. You just ruined the world and you don't care." So, I have gotten over that but my biggest concern is the loss of

biodiversity which is, you know, diversity is amazing, the amazing parts of the world we live in. It is pretty important to realize that we are not the only ones here. So, that is a big thing. I guess there is a lecture, what is her name, I want to say she is from UC santa cruz, she talked about climate change and like nature and she was saying, "of course, nature will survive climate change but that's not the question, the question is: is the type of nature we want going to survive climate change. It was really interesting because biodiversity in and of itself is not necessarily… you have to like the idea of diversity of life to subscribe to that reasoning. But, she was like it is all what we want and do we want there to be like, you know… The coral reefs, for example, I mean more life lives under the ocean than above so if you think about the coral reefs, boom, they are gone. That is the backbone for diversity of our oceans. That is a huge thing. And if that is caused by the acidification because of increased CO2 levels of our atmosphere, that just seems like that is a huge thing. The bottom line is if that is the only thing that climate change did, I would be against climate change at least, anthropogenically-caused climate change and that is what I believe the primary source is which ties back obviously to our energy consumption and our lifestyle choices and where we are at in society right now.

J.18 Beliefs about climate change - more on likely impacts – potential for personal impacts, catastrophic impacts, climate wars, and the fact we will be insulated here because of our wealth

I: Do you think climate change is going to impact you personally?
J: Yeah, probably. I mean if I ever wanted to go to a coral reef that is going to be pretty personal. A lot of the decisions like "I like snow" it's kind of like whatever, we will probably still have snow but, I don't want to make too grand of claims but I do remember my hydrology professor saying something about either Missoula won't have any snow by 2050 or if the projections are correct or we won't have very much. And that is less important to me, I guess. So I guess the way that climate change will personally affect people is going to be different. Obviously, the islands are like 3' off the ocean floor are going to be very affected or are already being affected. Of course, those types of people are going to be very affected by climate change. I personally am pretty insulated; the middle class person is probably going to have no money, food and shelter. I don't foresee a full-on collapse in the next (this is 2011) 49 years to 2050. But, I guess it is possible. But, yeah, I will see the impacts of climate change here. I don't want to overplay the whole "I like snow" thing and glaciers because it is true that, according to most research being done, the climate has and does continue to change over time. You know, the ice age did happen, etc. But, it is important from my understanding, some people down play our current situation and some people kind of escalate our current situation; but, the fact is that the rate at which the change is happening, it is much faster than ever before, at least in recent times. So, I guess when I say these things about changes that I can see, it is really hard to say that "oh, that is why I am fighting for climate change" because it is like well, is it really going to personally impact me? But, the fact that glaciers are receding, that is something that I can see and it does affect me even though it is not like "oh, I can't eat today because the glaciers are smaller." It is something that is there. I mean Glacier National Park not having glaciers, it is a big deal. It is a big deal because it does show that changes are happening and it is kind of like an indicator, I feel like. I went on a mountaineering trip in Canada in the Purcell range and got to the base of what on the map showed to be a glacier and it was essentially bare rock for about half a mile and the glacier had receded about half a mile up and left a granite slab basically. I did not realize that until we got out the map and like here's our camp in 1977, the glacier was right here when it was surveyed

and now the glacier we can barely see. It is up there. That is a pretty clear sign that something is happening. More studies show, at least in the north Cascades they speak to that, and on average the size of glaciers are on the decline. The overall mass is declining. I am not sure if they are all receding or what. So, those kinds of changes. Personally I would guess that things will get more expensive depending on how severe it is. I think that a big thing actually is, I didn't necessarily jump on, but a big thing is basically climate wars which we will probably be involved in. You know, when people don't have enough food, and people don't have the basic resources, especially when they had them prior, and increased drought and all these problems are symptoms of climate change in Africa or wherever, these things are going to materialize and put stress upon populations which then, you know, people have already kind of said that about certain conflicts as one of the first climate wars. The Department of Defense gave a lecture here, it was kind of a weird lecture, but two years ago it was all about why they care about climate change. It was really interesting. Obviously, it is happening if the Department of Defense, the number one or probably one of the most, contributes a lot to climate change in how much energy they use to fly jets and etc. If they are worried about it, that means that it is probably happening and we should be worried about it. So, in that sense, yes, I don't know. I can't predict that there is going to be a WWIII or whether or not those types of wars will affect us, but I could definitely see increased drought and resultant famine, the world excess grain supply dropping, or whatever. People in third world countries regardless, and most interpretations, the poorest people are going to be to the ones that suffer. And depending on your location, if you live on an island that is going to get flooded or low-lying cities next to the ocean, or a city that is dependent on ski resorts for tourism, all those places are going to be hotspots for impact. I don't personally see it currently as I am going to lose my life or my livelihood because of climate change but I do see it as other people will. Just like Vietnam, we did a studied abroad [names professor] and another professor at the College of Forestry I don't remember his name… she was saying how sea levels are rising, salt water is getting into estuaries or into rice paddies and they can't grow rice because of the salt water. It is like whoever really thought about that. Of course, it has happened before probably but that kind of chronic widespread impacts are going to be significant. And, yes, there will be repercussions. I think we are just insulated because we live in one of the wealthiest and definitely one of the most "consumeristic" countries that there is.

J.19 What should we do about climate change? Advocacy, social movement, policy change – but not likely to happen, individual behaviors – but sound insignificant to him, Education, awareness of consequences and impacts of specific behaviors at individual level

I: What do you think we should be doing about climate change? For example, if you kind of divide the world up into government and policy like you mentioned, individual choices, and say businesses and corporations and what they do, who do you think should be taking the lead on this?

R: Well, I think as I kind of said before, there are both personal choices and policy changes and I look at policy changes as we basically need a revolution. No, ha. I've given up, I'm…I am more excited about the possibility of reinventing a different wheel per se, so I am more into the revolution idea than the reform idea, as in revolution is a new society, reform is changes within society. I think that climate change is a symptom and something else is going to pop up once we fix climate change, if we ever do fix climate change. I have no idea what that will be but I think that, as far as practically speaking today, what can we each do today? We can ride our bikes. We can eat local food, sow a garden. [says all this like it is kind of dumb] I think policy is very

important and it is an interesting thing because climate change is such a large issue that to effectively work on it, it is a collective problem but it needs to be solved collectively. It is like the ultimate tragedy of the commons. In order to fix the problem, obviously, we need to have serious international negotiations with targets for CO2 emissions that are actually going to do something which is why it is so frustrating like when Copenhagen falls through and Cancun falls through or whatever. It is like there were so many people on the streets in Copenhagen, I don't remember the numbers, but there are tens of thousands if not hundreds of thousands of people in Europe saying now is the time, please make the decision. And the problem is it is too much of a... it is too well-ingrained, you know. It is like when are the leaders really going to make a difference and realize that this is a big issue that needs real consideration? So my point there is policy is important but it has to be aggressive and it has to do enough that it will really change things. So with regard to climate change, we need 350, of course. I personally believe that the more that you invest in an issue like getting 1,000 people arrested at the White House was ideal. It was exactly what needed to happen because, if you think about it, any social movement you have to have all different tactics going on. So I view this as a social movement. It is people that are ultimately going to be affected and it is not the people in power that are ultimately going to be affected. Just like most of the time it is the case. But, until it is like civil rights style where people are really out on the streets making this a big deal and, of course, that's not just… You know what is interesting, sometimes I get caught up in the fact that so many people are apathetic towards issues, but it is interesting to think that you don't even need a majority…[interruption as friend stops to talk]

Yeah. I guess it is interesting how you know you can have really effective, civil disobedience, and you can have ineffective civil disobedience. Or I think that, oh, I know what I was saying. Civil rights was a good example or like Gandhi and India's independence. I am familiar with that because I have done a little bit of research and I lived there a little bit. I was born in India. My parents were working there in an international school. But those types of things are super important because they kind of show the gravity of the situation. They show that it really does hold a lot of weight and so I guess that is the type of thing that needs to start happening as part of a larger movement which is happening. I keep getting these annoying e-mails about Keystone XL and Bill McKibbin keeps e-mailing everyone and Wit Jones from Energy Action Coalition or something. And it is like "oh, yeah, people power versus the corporations and stuff" but it is good to gets those but it is kind of annoying to get those because, okay, I am supposed to do a paper. But I would like to see people first and foremost get educated, you know, obviously, the science is out there. It is about effectively communicating what we know and that is why climate change studies and that sort of education and education early on… It is basically coercion in a weird way but it is the right type of coercion. Just like recycling has run its course. We need to show those connections that go to climate change. You need that step-by-step process. What would happen if everyone in this class today drove in a car? How much CO2? What if we all flew here from New York? How much CO2? You need that type of connection early on so that it gets ingrained in people to see that. So you need education and, obviously, it always comes back to education. We need really effective campaigns led by people who know what is going on and how to run campaigns and are passionate and whatever. Part of that includes civil disobedience because I think that can be a very effective strategy in part of the whole and personal decisions. So I'd say education. I guess, that's what my three were, education and political advocacy and personal decisions are all super important.

Glen

Glen is one of four interviewees in this section with a high level of climate friendly actions and one of three interviewees who believe climate change is caused by human actions. Glen's interview illustrates several very interesting themes about personal energy use and transportation actions. First, his climate-friendly lifestyle is largely motivated by being part of a social network of environmentally-minded people who make an effort to reduce their environmental footprint, an interesting expansion of the importance of social norms found in many other studies. His decision making process about personal energy and transportation is the second key theme of his interview: he exemplifies the compromises that must be made between a desire to be green and other factors such as being a parent. Similar to Maya and Joel, Glen also believes that climate change is human caused and a serious problem we as society need to address quickly. However, unlike Maya and Joel, he does not suggest that America's consumer-focused, capitalist culture is a source of climate change. Nor does he suggest we need major cultural change to reduce climate change. Instead, he recommends that the business community, with appropriate market incentives from government, should lead the effort to address climate change.

Personal history

Several elements of Glen's personal history are important for understanding his personal energy use and transportation actions and his beliefs about climate change. First, his life stage as a parent plays a key role in his decisions about personal energy use and transportation. They are the reason he often has to compromise his values and preferred actions (G.1). On the other hand, his role as a parent also motivates him to continue engaging in environmentally friendly behaviors because he wants to instill these values in his children (G.2, G.7). Glen's job also reflects his overall values and interest in green living; he works for local government to advance energy efficiency. Like many other interviewees, Glen moved to Missoula because he loves the outdoor recreation opportunities and he spends as much of his free time as possible outdoors biking, skiing, hiking, and gardening.

Values and Worldview

Environmental values: a live lightly ethic

Glen believes that reducing his environmental impacts are an important ethical responsibility (G.3, bolded selections). Unlike some other interviewees with pro-environmental values, he does not specifically express a belief that other species have the same right to existence as humans. Instead he expresses a more general responsibility to protect the environment. Though he does not expound on his values as much as many other interviewees, it is clear from the way he talks about his lifestyle choices that reducing his environmental impacts is a core value for him because it is a central principle around which he organizes his life. For example, he describes his reasons for living in town rather than in the country where he would be contributing to urban sprawl as a "land ethic." (G.4). Similarly, he explains that he rides his bike instead of driving as much as he can because he believes that reducing emissions is the "ethical thing." (G.3) He also explains that one of the ways he stays motivated to reduce his environmental footprint is that he wants his children to have "the same ethic", again suggesting this is a core value for him (G.7). His recurrent description of his environmentally friendly behavior as an "ethic" suggests that he has a strong value to 'live lightly' on the planet. He also discusses the importance of saving money and getting exercise in these excerpts as reasons for his decisions on how he gets around town, uses energy in his home, and where he lives, which I discuss in more detail later in the analysis.

Living an environmentally friendly lifestyle also seems to be an important part of Glen's self identity, which further supports the conclusion that Glen's pro-environmental beliefs are a core value. For example, Glen repeatedly explains that he engages in environmentally friendly actions because they make him "feel good" that he is not impacting the environment (G.3, G.4, G.12) His descriptions of how green behavior makes him feel sound very similar to psychological theories of identity, in which one's "ideal self" is built from core values and acting in accordance with this ideal self results in positive feelings of self esteem and is a strong behavioral motivation (Gecas, 1982; Stets and Biga, 2003).

Glen sees an environmental and energy element in many different issues and behaviors. For example, he sees food choices such as shopping at the local farmers market and growing his

own food, as an energy issue (G.4). These connections are important because they lead him to undertake a wide range of actions in the name of being environmentally friendly.

Consumption values

In the same way Glen does not discuss his environmental values in great detail, he also does not provide deep insight into how he feels about consumption and capitalism. However, he does not seem to believe that consumption is bad as do some other interviewees. He also does not seem to view capitalism as a negative element of our culture. He never implies that our culture is too consumption focused, that large corporations are bad, or that the profit motive driving capitalism is a problem in the way some other interviewees do. To the contrary, he expresses favorable opinions of the business community (G.9-end of excerpt, G.10). In fact, he believes that businesses will be most effective at addressing climate change because they have the necessary capital, the agility to act quickly, and the best ability to develop the innovative technologies needed -- all of which he believes government lacks (G.10).

Role of government

Glen does not directly discuss his views on the role of government in society in this interview. However, he does provide some insight into his views on this topic. First, he describes himself as a democratic progressive (G.11). Assuming he would agree with common definitions of the term "progressive" this may imply that he supports government interventions to make markets work more fairly for everyone. However he might not go so far as to say government should intervene more directly to redistribute benefits across society as someone who defines themselves as a socialist might. Based on his self definition as a "progressive", as well as his recommendations for what society should do about climate change, it seems that Glen supports a less strong and different approach to government intervention in society than Maya, who describes herself as a socialist. Some of the Glen's comments do support this conclusion. For example, he explains that he is in favor the Obama administrations 'cap and trade' idea, which is essentially government intervention in the marketplace to make it work more fairly rather than a direct restriction on business or individual behavior (G.10). Similarly, he favors government involvement in the form of tax incentives, another government intervention to influence the

marketplace rather than direct regulation (G.10). Glen also never proposes that individual behavior, or even business behavior, should be directly regulated. All of these things suggest that Glen does see a role for government in society, but that he would prefer that government help make markets work more effectively to reduce climate change rather legislating individual behavior and or forcing major cultural change in the way Maya suggests.

Social influences: being part of a green community

Being part of a social network that values and engages in environmentally friendly behaviors is a key motivator for Glen (G.6, G.7, G.8). This is one of the strongest and most interesting themes of Glen's interview. When asked how he got started with his efficient personal energy and transportation behaviors he focuses on the influence friends and his social community have had on him, "it was just the crowd I was with" he explains (G.8). His explanation of how he got started on energy and transportation efficiency is entirely focused on how different people and social groups have influenced his environmentally-friendly behavior (G.6). Social groups that share his focus on environmental actions not only initiated his own environmental behavior, they also help him sustain and increase these actions. He explains that it a lot easier to maintain an environmentally friendly lifestyle in Missoula because there are so many other people doing it. He explains "…it just is fun, so that keeps you going. There's a large community of other people doing it so you can kind of do it together" (G.7). When asked how he learns about energy and transportation efficient actions he also focuses on his membership in green social groups (G.8). Glen's focus on social networks is different from a more general influence of "social norms." It is clear that membership in a "green" social group is the key for Glen, not just his perception that being green is something society in general or even individuals important to him think he should do.

Glen also feels the pull of more traditionally-defined social norms, or the influence of others think he should do. For example, he explains that his parents question his choice to bike with his children because they think it is unsafe and he feels pressured not to ride with them. However, overall he feels that the environmental benefits outweigh the possible safety concerns (G.5).

Personal energy and transportation actions

As eluded to throughout this analysis, Glen engages in many "climate friendly" personal energy and transportation actions. In fact, his whole lifestyle revolves around reducing his environmental footprint. In the realm of transportation, he and his wife have decided to be a one car family to reduce their environmental impact (G.3). He says that he usually bikes or rides the bus to work. He also usually bikes the kids around in a bike trailer when the weather permits (G.3). They also chose their home location to reduce environmental impacts (G.3). Glen explains that he might like to live out of town and have a small ranch, but that this goes against his "land ethic" and belief in sharing common open space. He also says this decision to live in town had "everything to do with transportation" because if they lived out of town he would not be able to use the bus or bike around town. In his home, Glen is also very environmentally friendly (G.4). For example, he has a programmable thermostat to reduce temperatures at night, he has installed more efficient windows and insulation, and he hangs their clothes out to dry rather than use a dryer. Glen also makes efforts to reduce the environmental footprint of his food. He shops at the famers market and grows his own food as much possible to reduce the transportation and energy footprint of what his family eats. (G.4)

Actual decision making process

Compromising his desire to be green with other necessities is the centerpiece of Glen's decision making process about personal energy use and transportation. The primary source of compromise is his life stage as a parent. Every day, in decisions large and small, he is forced to compromise between his desire to do the environmentally friendly thing and the realities of his life as a parent (G.1, G.2, G.3). For example, everyday he has to decide how to get to work and get his kids where they need to go. He explains that he ends up driving a lot more than he would like to because it is not feasible to carry two kids on a bike or the bus as much as he would like. His next vehicle purchase will also be a compromise. Instead of getting something as small and fuel efficient as he might like, he would like to get a minivan because it is so practical for a family with little kids (G.1, G.3). At home he also has to compromise. He explains that he used to set his thermostat much lower, but with a baby and a two year old in the house he feels he needs to keep it warmer (G.1, G.3). Glen is a very conscious decision maker. He considers the

environmental impact of his decisions on a daily basis. For example, he explains that every day he and his wife discuss ways they can live their desired, "low environmental footprint" lifestyle:

> "Obviously, again, in my home, with just my wife and my kids, you know, we talk about it all the time, like I have already said, just water conservation, turning lights off. Is it warm enough to hang the laundry out? Can we – should we walk to this dinner party? Let's ride to the farmer's market or, you know – that's how we interact. That's mostly like an all good thing, you know, it's not really discussion, we just try to identify ways where we can." (G.5)

Nonetheless, he often has to compromise his pro-environmental values to address the realities of being a parent.

Glen mentions several other important motives behind his personal energy and transportation actions that are not core values but are still important factors in his decisions. The most important of these is saving money, which he admits does motivate him to reduce his energy use and drive less. This seems to be much less a core value, like reducing his environmental footprint is, but something he feels he has to do based on his current life stage. He explains that he never thought he would be worrying about 401ks or things like that, but now that he is a parent he has to consider saving money as part of his need to build a good future for his family (G.7). Glen also explains that getting exercise is an important reason he bikes instead of driving as much as he can (G.3). This does not appear to be a core value, but it is an important reason underlying his behavior choices.

Beliefs about climate change

Glen says that he believes in human caused climate change "wholeheartedly." (G.9) He expresses a high level of concern about the likely impacts of climate change. He says he feels that the "existence of humanity" is under threat from climate change. He thinks this level of impacts may not occur for thousands of years but still, he feels it could be that bad. He explains:

> "I think it could spell disaster and create lots of strife in the world. So those are the things that concern me. I know that sounds really fatalistic but I feel like that that's where we're kind of going in." (G.9)

In the same breath, however, he notes that he is hopeful about climate change because he thinks it will lead to a whole new industry and, he implies, the technology we need for a more efficient way of living. For example, he is excited that climate change has resulted in many corporations

focusing on low carbon technologies and on making money by saving money through greater environmental efficiency (G.9).

Glen does not provide that much information to illustrate how much he knows about climate change or how he got that knowledge. However, he clearly knows quite a bit about environmental and energy issues. He also clearly understands that transportation emissions and energy use are major contributors to climate change. He also does not provide details on where he gets information about climate change. However, he is clearly aware that the issue is a hot topic of debate in at least some popular media. He notes that he sees a lot of backlash against climate change in the media and most of the stories he sees about the topic are negative. As a result, he says that in his work on energy issues, he tends not to discuss climate change because it might turn people off. (G.9)

What should society do about climate change: business should lead

As described previously, Glen feels that the business community needs to take the lead on climate change because they have the capital, the innovation, and the agility needed to reduce climate change quickly and on a large scale (G.10). But he also believes that government and individuals have to play a role as well (G.10). As noted previously, he seems to prefer a somewhat limited role for government. He mentions that he would like to see government implement market-based incentives like cap and trade. But, he feels that government is probably too ineffective to accomplish even this. He explains that the political process is "so excruciating" and elected officials change so often that he does not think they will be able to accomplish much. Glen also notes that individual behavior is also important but individuals lack the collective clout of business or government so he does not think they will be able to implement the change required to reduce climate change. (G.10)

There is an interesting tension between Glen's own extensive behavioral commitment to things that reduce climate change and his belief that individuals alone won't be able to solve the problem. When asked if he thinks about climate change at all when he makes energy and transportation decisions he says yes. But, he reiterates that he is largely motivated by how reducing his environmental footprint makes him feel, rather than what his actions do specifically to reduce climate change.

"Absolutely. It kind of goes back to, again, that it makes me feel good I'm doing it, not just from the health perspective but I do think about when I ride my bike, you know, the greenhouse gas emissions I'm not putting into the world or the gasoline/oil industry that, you know, I'm not supporting that day because of what they do to our natural world to extract these things and/or deplete a resource forever that will not be there again. So, yes, definitely. I want to make choices to reduce my footprint that I think helps with climate change, and so, yeah, I think about it." (G.12)

This quote may help to explain the apparent contradiction between Glen's high level of personal action and his belief that individual action will have limited impact in reducing climate change. Glen's climate friendly actions are motivated more by internal values, living in accordance with his ideal "green" self, and membership in an environmentally friendly social network than they are specifically by making a contribution to reducing climate change. It seems that reducing climate change is more of a side benefit, than the primary motivator for Glen's personal actions.

Summary

Perhaps the most striking theme of Glen's interview is his clear articulation of how he has to make compromises between his environmental values and desire to reduce his environmental footprint with the realities of his lifestage as a father with children. Though this theme appears in multiple interviews, Glen provides perhaps the most detailed descriptions of how he thinks through decisions both large (for example buying a car) and small (for example how to get to a party) and weighs his different motivating forces. Glen's interview also illustrates an interesting tension between personal actions and beliefs about what society should do to reduce climate change. Glen engages in a high level of climate friendly action but he believes that individual behavior change will not be able to have a significant impact on climate change. This apparent tension likely results from the fact that though Glen is pleased that his green behavior reduces climate change, this is not his primary reason for engaging environmentally friendly actions. Glen is also very interesting because he helps to illustrate the wide diversity in proposed solutions to climate change even among those who hold similar pro-environmental values. Though he, Joel, and Maya all hold pro-environmental values, they have very different ideas on how to address climate change. Glen's interview shows that differences in beliefs and values about the environment, consumption, corporations, and the proper role of government in

society may help to explain why people with generally pro-environmental values may have very different ideas about how to address environmental problems like climate change.

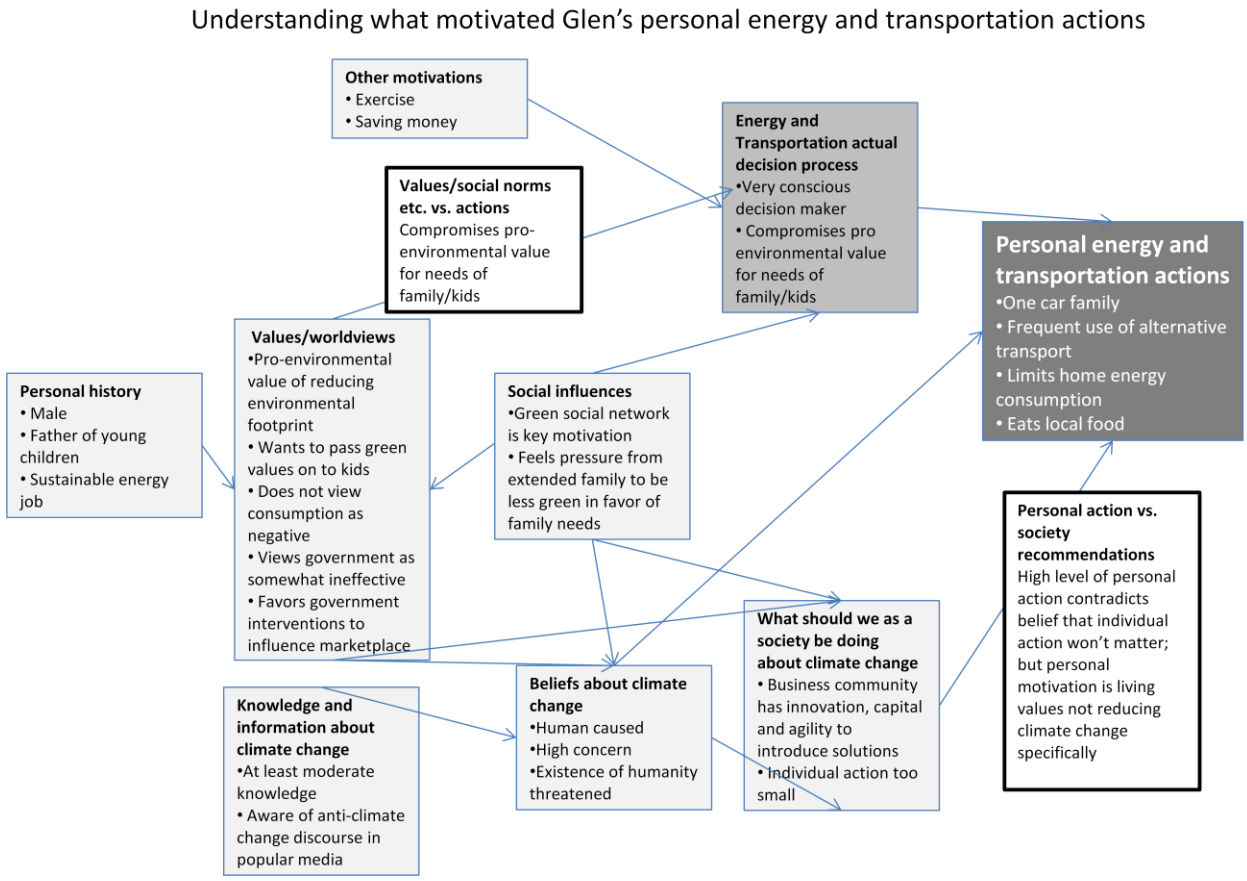

Figure 4.4 *Glen idiographic analysis*

Glen quote table

G.1 Lifestage as parent causes Glen to compromise on using more environmentally friendly to get around town and use energy in his home.

Interviewer (I): So how do you mainly get yourself and your family around town?

Glen (G): Yeah, you know, right now we drive a car, and that's because there's ice on the roads. We have young kids so there's lots of safety issues and car seats and blah, blah, blah. But when it's warm, one of us usually drives – my wife or me – we're a one-car family – and the other rides a bike. I often ride the bus as well, like on a day like today, I rode the bus. But, yes, sustainable transportation – I used to work for Missoula In Motion and so it's something, you know, very near and dear, and when it's warm, you know, we have a bike trailer that both kids can ride in and that's what we choose to do; however family life doesn't always allow us to do that and/or the weather.

…

I: Okay. Great. And I was going to ask about gas mileage, and you already brought that up. If you were going to buy a new car, what do you think you would get?
G: You know, and, again, this is a family dictated thing rather than our ideal, but we would probably look at a minivan to be honest with you. And, in fact, we have kind of started that search already. And, again, that wouldn't be our ideal car, but that's what our family and our needs right now dictate.
…

I: Just kind of what's important thoughts for you about it [home energy use]. Is it a consideration in your daily life or no?
G: I mean, this is another thing that shifts a little bit with kids, like ideally and before we had kids, you know, we would have our thermostat set for 64 degrees, you know, and when you have babies, especially, you can't do that, and so we bumped it to like 68,

G.2 Being a parent encourages Glen to engage in environmentally-friendly actions to instill these values in his children.
Try to teach that to our 3 year old, like, you know, when he's brushing his teeth, we have him turn off the water and we tell him why. And same with lights, he likes to turn lights on and leave them on but, you know, we try to tell him, well, you know, we don't want to waste energy and so when we leave a room or not around, we turn lights off. So those types of things.

Also see G.7.

G.3 Transportation actions and motivations
Interviewer (I): So how do you mainly get yourself and your family around town?
Glen (G): Yeah, you know, right now we drive a car, and that's because there's ice on the roads. We have young kids so there's lots of safety issues and car seats and blah, blah, blah. But when it's warm, one of us usually drives – my wife or me – we're a one-car family – and the other rides a bike. I often ride the bus as well, like on a day like today, I rode the bus. But, yes, sustainable transportation – I used to work for Missoula In Motion and so it's something, you know, very near and dear, and when it's warm, you know, we have a bike trailer that both kids can ride in and that's what we choose to do; however family life doesn't always allow us to do that and/or the weather.
I: Sure. Absolutely.
G: I've taken some pretty nasty spills on my bike in the ice. That's usually – I usually ride until I fall and then that's always kind of the wakeup call and then I'll switch over to the bus. So, yeah.
I: Terrific. What kind of car do you guys have?
G: We have a Subaru Wagon, also completely cliché. A green Subaru Wagon with 2 dogs in the back and a roof carrier and, you know, you can probably – yeah. We're – we don't stand out that much here in Missoula.
I: Hey, that's all right. How did you decide to get that car? What appealed to you about that?
G: You know, I think it's probably a good marketing thing. It was a wagon and so it was kind of big enough to haul kids and all the gear that goes with what we like to do. And then with the All-Wheel drive, it gave us the ability to get out a little further as well and feel good about

that. And fuel efficiency to a degree, although we actually went back in fuel efficiency when we bought the Subaru. We had a Toyota Corolla before which was about 34 miles to the gallon, and I think the Subaru is more around like 26, 27. So, you know, we knew we were doing that and I think for an All-Wheel drive or 4-wheel drive, Subarus are good on the efficiency end but, again, we took a step back.
I: How about financial considerations, did that play a role at all in the –
G: **As far as purchasing that vehicle? Not so much, to be honest with you. Yeah. Being a one-car family was also a financial decision as well as like an ethical one because, again, we want to not contribute to greenhouse gas emissions as much as possible, but gas is expensive too, and so, you know – but, no, as far as purchasing that particular vehicle, financial, we didn't consider that.**

I: Okay. Great. And I was going to ask about gas mileage, and you already brought that up. If you were going to buy a new car, what do you think you would get?
G: You know, and, again, this is a family dictated thing rather than our ideal, but we would probably look at a minivan to be honest with you. And, in fact, we have kind of started that search already. And, again, that wouldn't be our ideal car, but that's what our family and our needs right now dictate.
I: And what is it about the minivan that kind of appeals to you?
G: Space, primarily, seating space. Currently with two car seats, my wife and I can ride in our car but no one else can. And so if friends are around and we're – we need to go somewhere that requires a car, we have to take 2 cars. Whereas, a van, we might be able to squeeze someone into that third row. And then when family comes to visit, which they do, each family member – like grandparents, our parents, they try to visit like twice a year to have some recognition for the grandkids and our kids are the only grandkids on both sides, and so also when they come to visit, if we had a minivan, we could all ride together and/or they wouldn't have to rent a car. So that's why we need the space. And, honestly, they're just really convenient when you have young kids. Like the Subaru is great but, you know, you have to lean over to put in the car seat and you don't have hands and, like, I never thought I would say this in a billion years but I mean it's nice, a lot of minivans these days you have a little thing on your key fob and the door opens for you and you don't have to – it's like all those things really do add up when you're a parent, and I know that sounds a little selfish but like –
I: I can imagine completely.
G: -- banging your head and having a sore back and never having any hands and, you know, just the juggles of kids and everything that goes with it. It's mostly that convenience.
I: Yeah, sure. I can picture these things as I'm imagining all the gear that I'm going to have to purchase over the next couple of months.
G: It's way more doable with one, if this is your first, it still is like a massive change, or it was for us. It's different for everyone but – then with 2, it makes it even that – because you're both occupied all the time; both your time and like your hands. Whereas, with 1, you know, 1 person can like carry the kid or the car seat and the other can haul all the stuff.
I: Open doors.
G: Right. Exactly. But that kind of goes away or diminishes when you have a second. So, yeah. Don't worry, all hope is not lost. It is a radical shift, though, or it was for us in so many ways.
I: I can't even – I don't even know. It's like I can't imagine. We're just ready for change.

G: Exactly. And that's all you can be. It's a good change. It just is a little bit shocking. You have a lot to look forward to. I'm excited for you.
I: Good. Well, I'm glad to hear that positive spin.
G: Absolutely.
I: I'm wondering in an ideal world with no constraints how you'd like to get around.
G: Biking is my absolute favorite form of transportation. So in an ideal world, that would be it. Definitely.
I: **What appeals to you about the bike – how does that rise to the –**
G: Several things. One is it makes me feel good about how I'm not contributing to emissions and all the things that go with that; that's an ethical thing I guess. Two, it is cheap; three, and this was – this is something that remains true before and after kids, the exercise benefits of it are huge to me. And, again, I think it's even ramped up more since I've had kids because you don't have all that extra time to go out and exercise and recreate and so building that into something I have to do anyway, which is a commute, I'm thankful for that and oftentimes that's the only 15 or 20 minutes of the day that I truly have to myself. Although, if I have the kids in the trailer, that's not necessarily the case, but you know what I mean.
I: Yeah.
G: And, again, that's the only built in exercise time I have right now when I can ride. I like the pace of it. It's a little bit slower, although it's faster than walking but I appreciate that being able to kind of take note of what's going on in my world. And then, you know, I just – it's less stressful for me as well. I'd much prefer riding along the river trail to work than waiting at lights and, you know, all those kind of stresses that you have when you drive. So for all those reasons, I prefer biking.
I: Yeah, that's great, makes a lot of sense. Have you made any other big decisions that relate to transportation, like where you live or travel decisions or anything that you feel like are important to cover?
G: We choose to live as close to town as possible, and that is definitely for transportation. I would love to live, you know, 15 minutes outside of town, you're ideal ranchette, blah, blah, blah, you know, Montana rural lifestyle, but we intentionally rally against that actually for lots of reasons. So, yeah, we've chosen to live -- the closest [to downtown] we could live on our budget was the Franklin neighborhood, but I don't think we would ever purchase a home that wasn't at least that close to the center of town or closer. And that has everything to do with transportation. **And sort of a land ethic, like a land use ethic that, you know, we do not want to contribute to urban sprawl and we do believe in kind of shared public gardens and open space and all of that. And so, yeah, we choose to live as close to the urban core as possible**, if you would call this an urban core, but – yeah. For here it is.
I: Sure.
G: So, yeah, we definitely choose to live close so that we can bike and walk as much as possible.

G.4 Home actions and motivations

I: Just kind of what's important thoughts for you about it [home energy use]. Is it a consideration in your daily life or no?
G: I mean, this is another thing that shifts a little bit with kids, like ideally and before we had kids, you know, we would have our thermostat set for 64 degrees, you know, and when you have babies, especially, you can't do that, and so we bumped it to like 68, but we have a

programmable thermostat and we turn it way down when we're sleeping or we have it programmed to do that. We've done some energy efficiency improvements since we've lived there. We installed new windows. We just bought a new storm door this year to try to help with that. We could definitely use more insulation, and I think that that's probably what we'll try to do this upcoming year. And then, yeah, we definitely monitor water use as well. I consider than energy thing in the end. And so we definitely try to monitor that. And then like, again, when we can, we hang our laundry rather than dry it in a dryer. I think those are kind of the main things. Turn off lights. Try to teach that to our 3 year old, like, you know, when he's brushing his teeth, we have him turn off the water and we tell him why. And same with lights, he likes to turn lights on and leave them on but, you know, we try to tell him, well, you know, we don't want to waste energy and so when we leave a room or not around, we turn lights off. So those types of things.
I: Have you lived there then the whole time that you've lived in Missoula?
G: No, we haven't. We rented for a while. We've lived in our house for – it was 5 years in August, I think, so 5 years.
I: Okay. Great.
G: Another thing, too, we've done is we slowly are converting our yard into raised garden beds so that we can grow our own food, and that goes back to transportation and energy. I'm sure you know all of those inner workings.
…
As far as food goes, we connect with it in that the transportation costs, which are energy costs, of importing food – not just importing food from other countries aka South America right now but, you know, even just driving them within the United States from California or whatever, you know, if you could shrink that footprint, then there's a huge energy savings for the world, you know, there, I guess. And also I know that there's a huge energy cost in processing food as well. If we grow our own food and we eat as simple and whole as possible, I guess, we help to lessen those food processing costs as well. And refrigeration and everything that goes with those giant scales, you know, agribusiness I guess.

G.5 Conscious decision making process

G: Yeah. Obviously, again, in my home, with just my wife and my kids, you know, we talk about it all the time, like I have already said, just water conservation, turning lights off. Is it warm enough to hang the laundry out? Can we – should we walk to this dinner party? Let's ride to the farmer's market or, you know – that's how we interact. That's mostly like an all good thing, you know, it's not really discussion, we just try to identify ways where we can. With my other family, you know, it's a little bit different in that they don't necessarily share those same ethics, and it's not like it's 180 degrees against but they think some of the things we do are a little bit crazy. And so, you know, I'll get grief from my mom or whatever for like biking with the boys in the bike trailer, she sees it sometimes as unsafe. And you could view it that way. I can see that. So we have discussions about like why I choose to do that and what I do to take safety precautions and you can also have accidents in the vehicle, you know, blah, blah, blah. So those interactions are a little bit different in that for my other family who lives away, you know, they see us as sort of like being these kind of eco Nazis, taking risks that we don't need to, and maybe over thinking things a little bit and kind of being stressed out about it. And so I guess we're kind of like the – when they hear anything about the environment or green or whatever, they think of us and they'll like call and be like we heard this, you know, so I kind of like that, because I feel like slowly, you know, because they're not wholly against it and think it's like an

evil thing, it's my chance to let them know why we do it and I'm never going to make anyone's decision for them, but maybe if over time, I make enough sane arguments, they might try it themselves, if that makes any sense.

G.6 Motivations – social networks – perpetuated by "this community"

I: How did you get started with saving energy or being interested in, you know, greener transportation, that kind of thing?

G: Yeah. A lot of it started in – well, a lot of it started in West Virginia. When I went to college, I started out as an environmental protection major, that's not what I ended up getting a degree in but – I think I was attracted to those things. When I was in high school, I was an exchange student to Australia, and they had a much more advanced, I feel like, kind of green conscious, if you will, and I was exposed to that, and that was something I held on to and then just kind of further explored it, and it just grew as I got back and then kind of – there was a little dip in college just because I was partying hard, to be honest with you -- I went to just a giant state school and so, you know, it is what it is. And then when I moved to California, again, there's a very elevated, at least from where I moved from, kind of green conscious. And that's the sector I was working into and so I was surrounded by it personally and professionally. And because I already was a – I had open arms to it, it felt like I fit it, and so that's where a lot of that sort of green ethic and energy efficiency stuff progressed rapidly there. And then Missoula has that same vibe – not same – similar. Again, we moved here, I mentioned, because of – we thought it was a progressive community and we were seeking that out and so, again, I feel like a lot of the nonprofits and services and things that you hear about that make Missoula amazing and unique all somehow you can relate back to energy efficiency and energy savings. So it just keeps getting perpetuated by all of that, by this community.

G.7 Motivations – environmental values, social networks, sharing values with his kids, saving money

G: How do I keep motivated? You know, one, it makes me feel good. I guess that's a selfish thing. Two, I keep motivated by – again, I feel like I am helping to, like, improve the world. Again, I think that goes right with that comment I said before, that makes me feel good. I think it helps in Missoula that those kinds of things are fun, like, you know, if you go volunteer at Garden City Harvest or if you participate in like Sunday Streets Missoula, it just is fun, so that keeps you going. There's a large community of other people doing it so you can kind of do it together. I mean, another thing, and this is a little bit more heavy, but it's something that I want my kids to have that ethic and so as part of just like a parenting goal, that also keeps me going. So those are probably all the things. And I'd be lying if I said monetary savings wasn't a motivator, because it is at this point. And never, ever thought I would call my friend to get like tax advice or insurance advice or like retirement, 401K, and all these things, and I sound like such a yuppie, for a lot of people no matter what you are, those things enter into your life at some point. They're in mine now and, you know, saving money is a big deal, and it all goes back to building a good future for your family, which is an important thing, and I don't feel bad about that.

G.8 Motivations and information: "the crowd I was with"

I: How did you learn about all the things that you do? How do you feel like you got that information and got started?

G: I feel like there have been several different progressions but, you know, in the beginning, I think it was just the crowd I was with, it was something that I was always attracted to, obviously, or I don't think I would have gone down that path but, again, in Australia, my host parents were really tuned into it and that kind of fed the fire for a while and then again in California. That was both friends and my community but also work was directly involved in restoration, not necessarily energy per se but I trace a lot of that back to energy as well. I feel like when you're working with native plants, you know, has like a target or a specific thing, you know, that group was just educated in many different realms too, so you just kind of – yeah. So, anyway, I guess socially is what I'm trying to say.

G.9 Causes and Concerns about climate change

I: So one issue that comes up a lot when you talk about energy is climate change, and I'm wondering what your thoughts are on climate change.

G: Personally, I believe in it. I wholeheartedly do. Professionally, I have to be very careful about throwing that term around because there is a lot of backlash against that term right now. As far as programmatically, we have to be careful where we tread if we want to – I guess this is professionally and me a little bit personally because I see kind of public opinion as a bell curve, and this isn't anything rocket science or brilliant, but like, you know, you have your people who are never going to tune into your message, you have your people that are on board no matter what, but really who you're trying to persuade is everyone else in the middle who is much greater, and so I feel like you have a better chance by addressing issues and trying to kind of educate the public if you stay away from things that are going to turn people away. And so with energy, I feel like they're other triggers that aren't as controversial that I would prefer to focus on and then once you pull more of that middle group in this way, I feel like then you let them on their own make their decision about climate change, per se, if that makes any sense.

I: Yeah.

G: And so, personally, I have no problem with it. I think it's a real thing. And on my soapbox, I kind of think fearful if you don't. And, again, I'm not even outspoken like that with my friends, necessarily. I tend to take a different approach. But, yeah, professionally, because of the backlash and certainly the kind of – it's not the general public perception but sort of in that – in the mass media right now, it's way more – it sells more ads to point out, you know, all the scathing reports about climate change and sort of debunk it. I feel like there's still a lots of green stories and messages in the media but they don't necessarily have to do with climate change so much anymore, like specifically.

I: That's very interesting.

G: And if they do, I feel like they're negative.

I: That's a good point.

G: Yeah.

I: From a personal point of view, are you concerned about – would you say you're concerned about climate change?

G: Yes.

I: What makes you concerned? What are the sort of concerns you have?

G: I mean, all of the things that go with it, you know, rising temperatures, widespread draught, rising water and flooding places that we inhabit right now, and really just the existence of humanity, and I know that that can be over thousands and thousands and thousands of years but, you know, I think it could spell disaster and create lots of strife in the world. So those are

the things that concern me. I know that sounds really fatalistic but I feel like that that's where we're kind of going in. I have lots of hope too because I think that we have lots of technology, I feel like lots of brilliant people are working on more efficient systems. And if it's not for climate change, I do believe, and we're lucky, that in the end it's also going to lead to a whole new industry, I mean, it is, you know, this is old news but like I'm glad there's some money to be made in new efficiencies and new technology and I'm glad that also there's the whole idea of kind of corporate social responsibility too and that some major players have signed on and that there is momentum to do these things to make money, to save money. Yeah.

G.10 Businesses should lead on climate change – industry will be best able to develop and implement the needed technologies but there is a role for government and individuals too

G: …I have lots of hope too because I think that we have lots of technology, I feel like lots of brilliant people are working on more efficient systems. And if it's not for climate change, I do believe, and we're lucky, that in the end it's also going to lead to a whole new industry, I mean, it is, you know, this is old news but like I'm glad there's some money to be made in new efficiencies and new technology and I'm glad that also there's the whole idea of kind of corporate social responsibility too and that some major players have signed on and that there is momentum to do these things to make money, to save money. Yeah.

I: Yeah, that's really good points. And actually one of my questions I was going to ask is, who do – if you were going to sort of think about what we should be doing – we, collectively – what we should be doing about climate change, where do you fall in terms of, you know, should business be leading government, individual behavior change or kind of how you see those three players.

G: I see them all as having to be on board. As far as business and government, I think it's a close – if I had to choose one, I think it would be close but I think in the end, business probably has the most power. And I think that that's because, I mean, we all like money. They have tons of capital, government has tons of capital too but it's public capital which is highly scrutinized, and elected officials can change so rapidly and the process of legislation can be so slow and excruciating that I think business, the business community is agile and I think really for widespread change I would have to choose them, although I think government plays an extremely important role to provide incentives, especially tax breaks I know have motivated tons of people to do things, as well as – I think government, and I work in local government, should feel responsible too for setting the tone and leading by example and so, you know, I think that this needs to be on their radar and they need to actively be involved. But if you're asking me to choose sort of – if I had to choose one entity that needs to move this along, I would say probably the business community. Although I think if certain legislation could pass, it would be huge, especially if something like cap and trade, but I don't – for all those reasons I said, because the debate can be so excruciating and the process is so hard to get through, and it's designed that way, I mean, that's the way our political system is designed. And then also because of this pendulum that, to me, seems to have swung – it swung so far when Obama was elected and now I feel like it's swinging just as far back and we've already followed the cap and trade story. I mean, even passing like the transportation bill, which is far less controversial than cap and trade is, I mean, it's kind of just lame duck right now in Washington. And so I see businesses having to get it done right now.

Having that said, again, I feel like if something like cap and trade could pass, it would be extremely powerful and change the entire, I mean, again, you're putting price on carbon, and if

you do – yeah, it would not only cause people to pay attention who otherwise maybe wouldn't but it would create a whole new revenue source to pump back into these actions from the public standpoint and so –
I: Yeah, that's a very good point.
G: But if I had to choose right now, it would be the business community. Again, on top of everything I've already said, people want jobs and they need jobs and – it's funny too, I'm kind of going around and around, but like, you know, I follow energy issues in government right now, and what I'm hearing is the only way some of these green – to push through some of this green spending, like the grants that I'm administering now are called Energy Efficiency and Conservation Block Grants. They were not refunded, if you will, for FY2011. They're to be up for discussion to be refunded in FY2012, fiscal year. And the outlook for them to be funded is grim at best just because of the overall feeling about government spending right now. But the only way I'm hearing that it will be, or the angle that the people who are lobbying for this, is that it creates jobs. That's the only viable argument right now on that in that venue.
I: Yeah. Interesting.
G: That's another reason I choose business.
I: Yeah. And what about individuals, where do you think their role is in –
G: I think that – I think it's important, for sure. Yeah, I guess I don't know – I think cumulatively individuals have a lot of power. Yeah, I don't think that – there's just not as much clout there I don't think as government or business has but I think it's super important.

G.11 Political views and influence on climate change beliefs
I: I'm wondering if you think your political views influence your thoughts about climate change at all?
G: Absolutely.
I: How so?
G: Yeah, I mean, I'm a registered Democrat. I'm a self-professed, you know, progressive, which is a dirty word – not necessarily, it depends on who you talk to – you just can't read the comments in the Missoulian. Do you read the Missoulian online at all?
I: I do, and I read the comments too so I know kind of just what you're talking about.
G: You can't stop reading the comments even though they just piss me off every day. But, yeah, I feel like that's the vocal minority, honestly, but I tend to pay attention to that. I mean, not just individuals but everyone, I think. I think I kind of mentioned that earlier. But, anyway, what was the question, I guess?
I: If your political views influence your thoughts about climate change –
G: Yes.
I: -- and how so?
G: They do. I mean, because, again, liberal and progressive politics, all of this is part of that agenda, which is another reason why I've identified myself as a liberal or progressive because those are things that I want to see happen in the world. And so, yeah, I will vote based on someone who's going to at least say they're going to push things along.

G.12 Climate change as a motivator
I: Do you think about climate change at all when you're making your personal choices about energy use or transportation?

G: Absolutely. It kind of goes back to, again, that it makes me feel good I'm doing it, not just from the health perspective but I do think about when I ride my bike, you know, the greenhouse gas emissions I'm not putting into the world or the gasoline/oil industry that, you know, I'm not supporting that day because of what they do to our natural world to extract these things and/or deplete a resource forever that will not be there again. So, yes, definitely. I want to make choices to reduce my footprint that I think helps with climate change, and so, yeah, I think about it.

Crystal

Crystal provides an example of someone who engages in many "climate friendly" personal transportation and energy actions but is not primarily motivated by pro-environmental values, a desire to protect the environment, or a desire to reduce climate change. In fact, she has a relatively low level of concern about climate change. Instead, Crystal is motivated by a strong value of frugality. The interview also illustrates the important role of social influences in beliefs about climate change as Crystal has to navigate between two very different social worlds in terms of environmental beliefs and values, a social world at work in which human induced climate change and the need to act in response is widely accepted versus family and friends who are skeptical about the notion of climate change.. This interview also demonstrates that there is a wide range of different beliefs about the proper role of government in addressing climate change. While many interviewees expressed the belief that government needs to be involved in reducing climate change, what they mean by this involvement can be quite different – Crystal believes that the government should play the central role in addressing climate change, but from a very different perspective than Maya. Crystal, like Glen, illustrates that an individual's actual decision making process about personal energy and transportation actions often requires compromise between preferred actions and overall values and the practical realities of life. In her case – as with many other interviewees – her life stage as a mother with school age children is the primary reason for compromising between preferred actions and practical realities.

Personal history

Crystal's demographics and life stage are important background for understanding her values and worldviews as well as her personal energy and transportation behavior and beliefs about climate change. As described in more detail below, her life stage as a mother of school age kids comes through as a key element in her decision making process about transportation (C1, C4, C5). Crystal is a Montana native but has lived many different places as she grew up in a military family. She also left Montana to go to college. She is a student advisor. This job places her in a world that appears to be quite different from the one she grew up in and still lives in during her non-work life. Many of her colleagues at work likely exhibit high environmental values and concern, engage in scientific research about environmental issues, and hold more liberal political views. Crystal's family, on the other hand, is politically conservative and does

not espouse the kinds of pro-environmental values demonstrated by many environmentalists including Maya, Joel, and Glen. Crystal describes herself as politically independent but her husband and parents are strongly skeptical of human caused climate change (C3, C.11). She spends her freetime mainly with family, much of it in outdoor activities like trailer camping, hiking, and sledding (C2).

Values and worldview

Consumption values: the value of frugality

The primary value that came through in Crystal's interview and underpins her personal energy and transportation actions is the value of frugality, which is exhibited in her efforts to not waste money and to make conscious and careful choices about how she allocates her money. This is a core value or key life theme for her and is much more important in her life that than just the basic truth that most people like to save money.

Being economical and careful with money are important elements of Crystal's self identity. For example, she describes herself using financial terms like being a "big budgeter." She also takes a lot of pride in her efforts to economize, which helps to illustrate that frugality is both a core value and an element of her identity (see Gecas, 1982; Stets and Biga, 2003, who make the case that expressions of pride are indicators of core values and identity). One way in which she illustrates her pride in this action is by comparing herself favorably to others who are "too lazy" to take the time to hang up their clothes rather than use a dryer and to people who are too status oriented and too selfish to drive a more practical, fuel efficient vehicle. She also mentions several times that friends make fun of her for her actions to conserve, but she seems undisturbed by this criticism and secure in her identity based on prioritizing economizing actions rather than expressing any embarrassment or shame. (C.6)

Crystal's entire lifestyle is focused on frugality, as she spends a lot of time and thought on it. For example, she puts a lot of effort into researching cost effective options and behaviors to save money. She did an energy audit when they purchased their house and has made renovations based on the results of the audit. She is planning to make a spreadsheet to track how much money they are saving by driving their fuel efficient car rather than their truck. She has taken the time to weigh the costs and benefits of using the energy companies "budget billing" plan vs.

paying for the actual amount of energy used each month. And, she prides herself on taking extra time to hang clothes to dry rather than use the dryer to save on energy costs (C.6). She also is willing to spend money to invest in things that will save money for the long term like new, more efficient appliances. This reflects her overall commitment to allocating money wisely; she is not just motivated to save money in the short term. Instead she is willing to spend money upfront if it means she will save money in the long run. (C.6)

Crystal's value of frugality appears to have several sources. It is at least partially influenced by the realities of not having a lot of extra money. But the prevalence of this theme and the way she talks about it make it clear this is a core value not just an effort to work within the necessities of her financial situation. Her value of frugality seems to be largely influenced by her family upbringing. She says that her parents always taught their children not to waste. She also reveals that her parents have invested in an entirely off the grid home to save money on energy. She explains that their decision to make the investment was "all financial" as opposed to being environmentally motivated. (C.6) This value is also influenced by desire to have money to spend on other things she has to do or wants to do, especially things that benefit her family. She specifically cites the example of preferring to save money to pay for braces for her kids rather than pay the electric company for wasted energy. She also appears to save money for things their family likes to do like being able to have a big truck and trailer for camping. Her life stage as a mother and the overall importance of her family are important motives for her desire to save money and, therefore, not waste money unnecessarily on energy or fuel. (C.6)

Crystal's value of frugality fits as a consumption-related value because it governs her own beliefs and actions about consumption and also colors her judgments about how others should consume. Though she does not specifically discuss overconsumption as a societal problem in the way Glen and Maya do, and she may not make direct connections between her own value of frugality and American culture in general, her beliefs about allocating financial resources make a clear statement about what she believes is the right way to consume.

Environmental values

Crystal does express some concern for and desire to protect the environment. However, she does not organize her life around protecting the environment or reducing her environmental footprint in the way that Maya, Glen, and Joel have. . Her beliefs about climate change,

discussed in more detail below, suggest that she does think it possible for humans to negatively impact the environment (C.7) – a frequently used criterion for judging environmental values (Dunlap et al., 2000). But she also thinks climate change is primarily a natural phenomenon, suggesting she does not think humans can impact major environmental phenomenon like climate (C.7). Though environmental protection is not a central theme in her life based on the discussions in this interview, she does recognize the environmental benefits of many of her personal energy use and transportation actions and she views her contribution to environmental protection as a pleasant side benefit of her actions (C.12). Though Crystal is not a strong environmentalist, she does seem sympathetic to the overall idea of protecting the environment.

Role of government

As described in more detail below in the context of Crystal's beliefs about what society should do to address climate change, Crystal exhibits a mix of beliefs about the proper role of government in society. On the one hand, she emphasizes the importance of individual freedom from government regulation (C.8). On the other hand, she recognizes that government can play a positive role in addressing major problems like climate change (C.8). She generally seems hesitant to support government regulation, especially of individual behavior. But she seems willing to accept government interventions in business activity to address major problems like climate change.

Personal energy use and transportation actions

Crystal engages in a relatively high level of "climate-friendly" transportation and energy actions even though these actions are not motivated by a desire to reduce climate change or even to benefit the environment. Her climate-friendly actions include, purchasing a fuel efficient car to use for commuting instead of regularly driving their large pickup truck that gets only 8 miles to the gallon (which they purchased to support their outdoor recreation activities) (C.5). She personally uses a mini-van to drive around town most of the time because she needs a larger vehicle to carry her children; but she chose a mini-van over an SUV because the van gets better gas mileage (C.8).

She also engages in a wide range of actions to reduce energy use in her home including some significant investments in renovations (new windows, additional insulation, and a new

fireplace); purchasing energy efficient appliances; installing a programmable thermostat; and replacing all her lights with CFL light bulbs. She also engages in many conservation behaviors like hanging clothes to dry instead of using a dryer; using blankets instead of keeping heat high; and taking fast showers. (C.5 and C.6)

Actual decision making process

Crystal's value of frugality plays the key role in her decisions about personal energy use and transportation. However, it is also clear that other factors play a role in her actual decision making process. A central theme of her decision making process is the need to compromise between her desire to be frugal and the realities of being a mother with younger kids. For example, even though she has a strong desire to save money by using less gasoline, she explains that she usually has to use the family's larger less fuel efficient mini-van rather than the small, fuel-efficient sedan they purchased because she has to carry around three kids and their gear. She also says that she would like to use public transportation to get to work, but she needs to have a car at work to be able to pick up her kids or be available if they need her during the day. She explains that once her kids can drive she would like to drive part way to work, park in a less expensive commuter lot, and then ride her bike the rest of the way to save money on parking and gas. (C.4)

She also feels that there are infrastructural limitations to her desire to drive less and spend less money on fuel. She notes that she can't reduce her vehicle use as much as she might like because the public transportation system in Missoula is not as good as in larger cities. She explains that if she lived in a big city she would use public transit to commute, but we "just don't have that here." (C.13)

She has also compromised on frugality to give her family the things they want. For example, her family bought a very inefficient truck to be able to pull a trailer for camping. Her decision making process when buying this truck also suggests that and she may not always do research on costs before making big purchases for her family. She says she was surprised to find that their new truck only got eight miles to the gallon. She explains she knew they needed a bigger truck for hauling and towing but then she had to back track to deal with how much fuel it required. However, it would not have been all that difficult to find out the truck's likely fuel efficiency before they bought it had she been applying her value of frugal living to that purchase;

vehicle mileage is readily available online and is posted on the window sticker of vehicles for sale at dealerships. This example suggests that in some cases other considerations, such as giving her family what they want, trump her value of frugality. (C.14)

Social influences: navigating two social worlds in terms of beliefs about the environment and climate change

Crystal inhabits two very different social worlds in terms of beliefs about the environment and climate change. Among her family and friends, she is something of an environmentalist, while among her colleagues at work, she is more of a climate-change skeptic. Her beliefs about climate change and the best solutions to climate change seem to reflect that tension.

In comparison to her family and some friends, Crystal is kind of an environmentalist (C.7). Her family is very skeptical about the idea of human-caused climate change (C.11). While Crystal believes that climate change is largely a natural phenomenon, she also believes that humans have to play some role in causing it. In addition, she is more environmentally active than some of her friends, who make fun of her for conserving energy and for recycling (C.7). She also believes that it is a positive thing to protect the environment (C.7). While this is not the primary reason for her efforts to reduce fuel and energy use, she recognizes and is pleased by the "side benefit" of helping the environment (C.12).

At work, on the other hand, she has different environmental beliefs than many of her colleagues and students. Her belief that climate is largely a natural cycle is likely in opposition to the beliefs of most of the students and professors she works with on a daily basis. For example, she recounts a time when a student negatively called her "one of those people" because she did not believe climate change was primarily caused by humans (C.9). So, at work, she falls much more right of center in her beliefs about climate change and the environment.

Crystal faces two very different sets of social influences and social norms. Bridging between more liberal, pro-environmental social norms at work and more politically conservative and less environmentally friendly social norms at home seems to play a central role in her beliefs about climate change. The impacts of these mixed social influences are explored in more detail below.

Beliefs about climate change: In the mix of two social worlds

Crystal describes herself as being "in the mix" on the issue of climate change. She feels that it is largely a natural phenomenon that was going to happen anyway. But she also thinks that humans have to be having some impact given that there are "more people, more cars, more blacktop, and more factories." (C.7) This "mixed" belief about the causes of climate change may reflect the two very different social worlds she inhabits. For example, she says she is familiar with politically conservative messaging on climate change like the "Hannitys" of the world (referencing conservative talk radio personality Sean Hannity). But she is also exposed to strong messages about climate change being both human caused and a major problem from her colleagues at work. (C.10).

It is difficult to judge Crystal's level of concern about climate change. When asked if she is concerned about climate change, she begins by saying "I'm not sure." Then she goes on to say she is concerned, but that she thinks it will be hard to get people to change behaviors that contribute to climate change, like driving large gas guzzler vehicles (C.15). Her beliefs about the impacts of climate change suggest that she is not highly concerned about it. She believes that climate change will happen slowly and that few changes will happen in her lifetime. She also says she thinks that most changes will be to "the landscape," which she makes sound impersonal and removed from her life.

Interestingly, much of Crystal's discussion of the possible changes brought by climate change focuses on changes in people's behavior rather than to the earth. She explains:

"I think more and more people will change I don't know about the earth itself but I think that people will change with more regulations and stricter things with companies and vehicles and that kind of stuff. I mean it would be nice if we did have vehicles that you know we had companies that had to do better mileage, I think people would pay a little more for better gas mileage and I know they've been talking about it with the administration that they have to have so many miles per gallon on a vehicle before they could sell it. And you know I wouldn't be opposed to paying a little more to have better gas mileage." (C.15)

The fact that Crystal believes a major impact of climate change will be the availability of more fuel efficient vehicles may also serve to reduce her level of concern about climate change because this will support her core value of frugality.

Crystal does not seem to have as much knowledge about climate change as other interviewees. While she does recognize that climate change is caused by vehicle emissions, she also seems to suggest that recycling more is a way to reduce climate change, which is not really

the case. For example, in the context of her beliefs about climate change she notes that she would like to drive less, but she also notes that she recycles cans. Her limited knowledge level may reflect the fact that she is not that concerned about climate change, and therefore is not that motivated to learn about it. She might also feel pressure from her husband and parents – who don't believe in human caused climate change – not to spend time learning about it.

What society should do to address climate change

Her beliefs about what society should do to address climate change also seem to reflect the influences of two very different social worlds. Perhaps as a product of having to navigate two social worlds with very different beliefs about climate change, her recommendations for what to do about climate change focus strongly on compromise and finding a middle ground. When asked what she thinks society should be doing about climate change, she initially notes that she thinks climate change is largely natural and would happen anyway. But she also says that she thinks we should work with companies, especially vehicle manufacturers, to reduce human contributions to climate change. She bemoans the fact that dealing with climate change is such a controversy and thinks we should try to have a "happy medium so that everyone is happy." In terms of specific actions to reduce climate change, Crystal proposes that "we work with" companies to develop more fuel efficient vehicles. (C.8) She is alluding to government regulation of vehicle fuel efficiency, but she calls it "working with" and suggests we should find a middle ground rather than outright recommending government regulations on companies. But while Crystal would like to see a less controversial middle ground solution, she recognizes this is not likely. About the possibility for a compromise solution, she says: "But that's just never going to happen. I don't know, I don't know how you can change it without having some kind of controversy." (C.8).

Crystal's belief about the proper role of government in addressing climate change is an interesting theme of her interview and again reflects the influences of the two different social worlds she inhabits. She exhibits conflicting desires to preserve individual freedoms (possibly reflecting her more conservative side) while also recognizing the need for government intervention to address climate change (a more liberal belief). She explains that you can't force people not to have gas guzzlers like Hummers, as this is part of the freedom of America. But when asked who she thinks should take the lead to address climate change, government,

individuals or businesses, she says that "government is gonna have to because it (climate change) is just so big…" and individuals are too lazy to change for the most part. (C.8)

This tension between individual freedoms and government intervention provides critical background for understanding what Crystal means when she suggests the government has to address climate change. Unlike Maya who favors strong government regulations like a government takeover of transportation or regulations on home sizes, Crystal likely would not support government regulation of individual behavior. On the other hand, she realizes that the issue of climate change is too big for individuals to really make a dent in the problem on their own and she realizes that many people are not willing to change their behavior. Perhaps influenced by her beliefs about individual freedom, she recommends that government focus on car manufacturers, not car buyers. In other words, government interventions into business activities might be alright, while government regulations of individuals are less acceptable. Even then she refers to the role of government as "working with" companies. She does not use the word "regulate". Instead she recommends that the government get "stricter on the car manufacturers then it would all trickle down from them." (C.8) Crystal provides an example of how someone with more politically conservative values who prioritizes individual freedom over government intervention can also believe that the government has to take the lead in addressing climate change. However, her beliefs about the role of government provide a cautionary example of how an expression of support for government involvement in climate change does not necessarily mean support for government regulations, especially regulations on individual behavior.

Summary

In summary, this interview illustrates that one does not have to be motivated by a desire to reduce climate change or protect the environment to engage in a wide range of conservation actions that do, in effect, help to reduce climate change. Crystal engages in many "climate friendly" actions, but she is motivated to conserve by a core value of frugality or allocating financial resources wisely. This interview also demonstrates how social influences play an important role in shaping individual's beliefs about climate change and what society should do about it. Crystal inhabits two social worlds in terms of environmental values and beliefs about climate change – climate change skeptics/conservative at home, environmental/liberal at work.

Likely as a result, she has "mixed" beliefs about the causes of climate change and prefers a collaborative, "middle ground" approach to addressing climate change. She does not want to see individuals forced to change their behavior and prefers an approach that seeks common ground and agreement among government, businesses, and individuals. She does see a role for government in addressing climate change, but her views on the level and type of government intervention are very different from many other interviewees in this study. Finally, this interview illustrates that people often compromise on strong values and desired actions – in this case the value of frugality and desire to save money – when making decisions about personal transportation and energy use. Like many other interviewees, Crystal has to balance her desire to economize with realities of having kids and the desire to give her family the things they want.

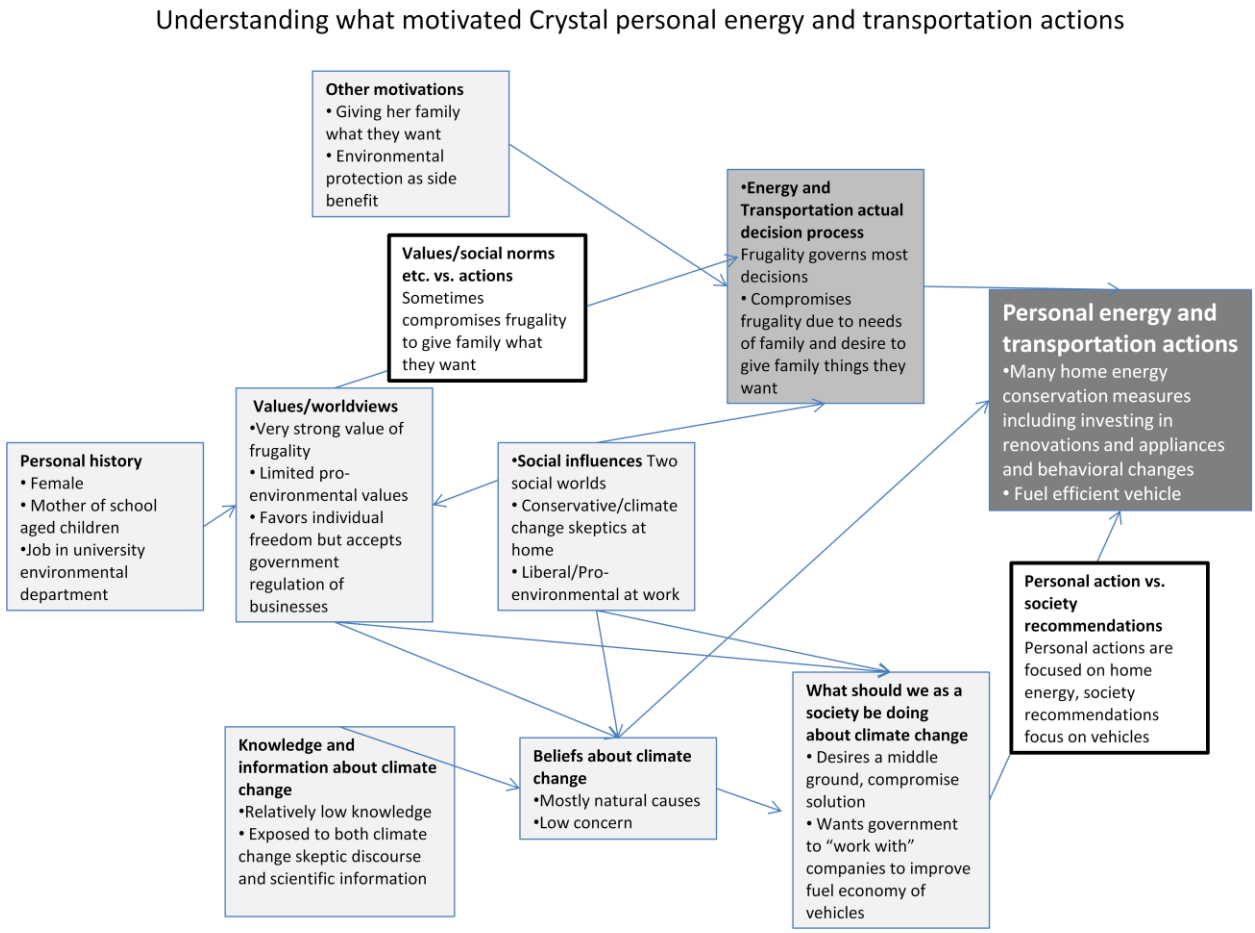

Figure 4.5 *Crystal idiographic organizing system*

Crystal Quote table

C.1 – life stage as mother

Interviewer (I): so, tell me a little bit about your family. Do you have family in town?
Crystal (C): Um, well my immediate family, I have three kids and my husband. My husband was born and raised here. And my in-laws are in Missoula. My mother-in-law was born and raised here and my father-in-law was about, I don't know, three or four when he came here.
I: ok, and you have three kids are they little kids, or?
C: I have a stepson who is 20 and an 11 year old and an 8 year old.

C.2 – outdoor recreation
I: um, how do you spend your time outside of work?
C: um, mostly with the family and in the summers we like to camp, and we hike. My husband hunts, we fish now that the kids are a little older, so we definitely are outdoors. In the wintertime it's football, we watch football. We're big football fans.
I: oh yeah.
C: We do sledding and stuff but we don't really ski or anything like that.

C.3 – politically independent
I: ok, um and how would you describe your political views?
C: mmmm, I'm pretty independent. I'm definitely not one party or the other. So I don't really vote party line. You know I just kind of vote on the issues and the areas so I'm pretty much an independent.

C.4 - Constraints of family
C: well, you know it's hard for me right because of kids um I would commute to work for sure. I'd do the park. Because I pay for parking. So if I do the park and ride I wouldn't have to pay. I could pay a commuter (parking rate) because that's a lot less expensive. Then I could drive part way and ride my bike so I wouldn't have to worry about parking. I just don't feel I can do that right now with my family because I'm the primary person that if somebody gets sick at school or something. But when my kids get older I plan to do that.
I: ok, interesting And so the follow up on that is what would have to change in the world for you to be able to get around like that. It sounds like it has mainly to do with kids or?
C: The kids just need to be a little older so that if they do call and their sick or something I can get there in half an hour or a little bit longer. And their activities, you know I have hustle out of work and go hurry and feed them and hurry and take them. So if they were able to drive themselves than I could give up my car for them and I can use a bike or something.

C.5 - Transportation actions
I: yeah, ok. Um ok, so just switching into transportation stuff to start and then we'll go on to home energy use stuff. How would you say in general you get around town?
C: By a vehicle.
I: ok
C: Um, we have three vehicles, um we bought a bigger truck because we do camp and we do have a boat. Um, but because of the cost of the fuel and the economics we also bought a little Toyota Corolla. It's a 95, it's a standard so, I think it's easier on gas that way too. But that is our primary running around town vehicle. My kids are in different activities and I am pretty much the primary person running them back and forth. So the truck sits unless we're going camping unless we need to haul something for a truck. Otherwise it literally sits and we changed the

insurance so that the insurance is now just for recreational vehicle and so it costs us 10 dollars more a month total for insurance by switching that and having the car insured now. So I have a mini-van cause of the kids.

C.6 **Home energy actions and motivations**
C: Well when we bought our house we did an energy audit, just to kind of see if we were losing or what we were doing. We put more insulation in cause they advised us to, we put new windows in all of our windows upstairs and down. And currently we have a gas fireplace that is not really functioning and to be honest you can feel the air coming out in the winter time. So we're in the process of doing a gas insert to also help with our electrical bills and I think so that we're not losing any of the heat out the chimney.
I: yeah, interesting.
C: we have a gas insert or fireplace downstairs too it's a stand up. We'll use that sometimes too but mostly we use our electric. And um we're pretty conservative. We have a timer on our thermostat so we turn it down when we're gone during the day and we have our home mode our evening mode and our weekend mode so we're pretty efficient with that. And we have blankets. [Friend] makes fun of us with that (laughs). When company comes we will turn it up but for the most part we have sweatshirts on because we don't want the heat bill. And it's not that it's uncomfortable it's just we don't have it toasty warm in there. We definitely think about that. And we do have an air conditioner, its central air.
I: oh, ok.
C: but we are also pretty cheap with that too and so maybe three times this year we turned it on. My husband cleans it out but for the most part of the time we use fans, so again to keep down the costs.
I: So it sounds like primarily these are to conserve on the energy bill. Is that right, or are there other kind of thoughts going on in your head in terms of how to decide about how to use energy or what appliances to buy or?
C: Yeah, most definitely we got a new dryer and we wanted to make sure that was and a new fridge and that was because the other one was running constantly. I mean it was doing ok but it just was an older fridge and so we decided to get a new one because of the energy costs and the dryer the same way it just wasn't working well. So, um I think we do make conscious efforts with that. All our light bulbs are the squiggly ones. So we've changed out all our light bulbs in the house so their like that. Um and we have lower watts of light bulbs. And our kids are pretty good about shutting them off when we're not in the room. So we try to be pretty efficient that way.
I: yeah, great. Do you feel like you notice a difference, like you can tell when things are going up and down?
C: Yeah, we definitely can because of the company. And we are fast shower takers so we really watch the heat with that too. And we wash our clothes in cold water and we hang them for the most part. My husband built racks to hang them on so we use the dryer to kind of fluff but we don't dry fully. And I'll put the racks outside in the summertime. But um, my son calls us cheap (laughs). But I don't know we've just always done that and we just feel we should do that. Plus our appliances will last longer too, the less we use them as much and we take care of them.
I: yeah, so how did you get started on all of these conservation things, you said you have always done it, did you grow up that way or?

C: yeah I think so. I mean my parents they had a clothesline. And when I was in an apartment before I met my husband I mean it just was an economics thing I just saw one and I would hang things up on chairs, my parents helped me buy my first dryer. And I just did want to have a big electric bill So I just kind of converted and then we got married we just kept doing it.
I: yeah, so do you think your husband also did that kind of stuff before he met you?
C: Yeah
I: so it was important to both of you.
C: Mm hmm
I: and what would you say motivates you to keep going. You know keep kind of taking all these actions and keep up with them?
C: Well you know a couple of things. We want to save so we make sure that we can keep what we have, you know to make sure our expenses aren't outweighing our what income is. It's easier I think to use the dryer and easier not to worry about the lights but we want to make sure that we keep it and that our house is good for us later on. And I think that the money is a big thing for us too. I mean I'd rather spend the money on something else. I mean, my kids are in braces I would rather put my money to better use than the lights being on or the dryer being used when it takes 5 minutes to hang them up.
I: yeah that's interesting, makes sense. Ok I got off my list here, it was good though, perfect. Oh, how do you interact with your friends and family on energy issues or transportation issues. Is it something that comes up very often in conversation or, do they respond to you and the way you do things at all?
C: not really, I mean our friends will tease us because it's cold in the house and we'll turn the heat up for them. And they tease us about the drying because you know they think it's silly that we're doing that to save 35 dollars or whatever, they just think they would rather not waste the time.
I: that's a lot though actually, you know, you can tell if you're using the dryer a lot, you can see it in your energy bill?
C: Absolutely, I mean that is multiple with many things. I mean we have underground sprinkler so we also try to keep track of that. So what I do when I budget, I'm a big budgeter, I budget our heat bill and then I budget the same amount and then I do with water. So I'm not on a budget bill. I know a few people who do that, so they pay one price whether it's winter or summer.
I: ok
C: I feel that that wouldn't be good for us because ours varies so much because ours is pretty low compared to others but then our water goes up in the summer compared to our heat so then I budget the same dollar amount but in different areas, so our heat goes down but our water goes up. Budget billing is big for a couple of people I know so they just pay a flat fee winter or summer and I just don't feel comfortable with that right now I mean it might go down some but then I would not have my budget for the water.

C.7 Beliefs about climate change

I: So one major issue that has to do with energy is climate change. So I'm wondering what are your thoughts on climate change?
C: um, I'm kind of in the mix of it. Um you know I think the climate's always been changing but I also think that you know more people, more blacktop, more vehicles, I definitely think that's its having an impact on it. But like I said I'm kind of on the fence with it because I think with evolution and just things changing. I think it was going to change anyway. But I just think how

can people not be impacting what's going on I the world. There's more and more people and more and more cars and more companies and factories and all of that stuff. So it's hard for us because I think we take it for granted with the family and driving around and what we have to do to get around. I don't know I think I'd be less vehicle if I didn't have the family. I mean definitely. I mean partly for the environment but partly to be selfish and not have to spend money on it. The amount of money I could save for oil changes and gas and all that, and plus I'd be helping the environment too. We recycle cans for sure. My dad drinks beer and he brings it and calls it my kids college fund. But all of his friends and everybody brings it to us. Because again our friends think it's silly to recycle because you don't get that much for it. But we recycle all our cans and anything we can do, we help with that like recycling.

C.8 What we should do about climate change and role of government

I: Yeah, that's interesting. So that actually leads really well into what my next question was. What do you think we should be doing on climate change if anything? What are your thoughts on that?

C: I think we definitely need to try to change some of the pollution and some of the recycling and that. I think part of it is going to happen just because of the climate changing and the normal natural phases but I definitely think if we can work with, because I think the vehicles are the main thing and companies. We were working with Stone I think to make the smoke or whatever I don't know.

I: Smurfit Stone?

C: yeah, I think if we can work with the companies, they won't like it but if we can help to see what the toxins are and try to lessen that. And also with the vehicles, I just think it's silly to have a Hum Vee coming around why do you really need that. For me it's minivan and everyone teases me because I don't have an SUV. But you know the minivan does the same thing. It's not as fancy looking but it does decent for gas mileage for what I need. And I don't know, I'm not into the show. And a lot of people I think in California and bigger cities are into the show. And I don't know how you can restrict it. I mean that's all of part of the freedom of America is having that freedom with it. But I think if they were maybe stricter on the car manufacturers then it would all trickle down from them. I don't know how else to do it. You can't force people. That's the hardest thing. And then you have the other side, the republicans saying more government. And then you just have a battle going. You want to try to have a happy medium so everybody's happy. But that's just never going to happen. I don't know, I don't know how you can change it without having some kind of controversy. But I think the little things would be good to do. And just to maybe increase more recycling. I mean even Missoula doesn't have a whole lot of recycling. Just to encourage it. And have people doing it more. And the vehicles. Just try to have them have more stipulation with their gas mileage. So, I don't know.

I: yup. Do you feel like individuals could reduce climate change by changing the way they behave or that government would have to act like working with auto manufacturers, or that businesses should take the lead or where do you kind of sit on that whole thing?

C: I think government is gonna have to just because it's so big. I mean I almost thing, I just don't think uh, I think individuals are too lazy to be honest. I think there are a handful of people or majority of people that want to do something but they are just too lazy. I mean, just like the whole dryer and hanging your clothes. I mean its easier to not do it.

C.9 Two social worlds – right of center at work

C: You know one of the students said ‘oh you’re one of those people’ because I was not 100% behind it. And I’m like well I don’t know look at the Ice Age and this was Lake Missoula before. I just think that some of it is just natural. But I definitely think that we’re a part of ti too. I just don’t think it’s 100% people. But she was like you’re one of those people’ and I was like well I guess but I’m not saying that it’s not real. And I definitely think that we can stop it, well I don’t know stop it. But lessen it. But I just don’t know how much the American people are willing to do it. Like I said I think they’re lazy with it. It’s easier to get a big rig if you want to you know.

C.10 Two social worlds and desire for common ground
C: I don’t think so because I think I’m pretty neutral with it. You know you hear the Hannitys of the world and the [co-worker, name removed] of the world who are really opinionated on it. My husband is very opinionated on it. So, I really try to listen to them all. I try not to make it a political issue to see the sides and the data of what’s going on and how we can help you know everybody. Again, I’m frustrated by how Republican and Democrat people are and how they’re not willing to give. And I think right now that’s the problem Each side is so stubborn in what they want to happen or see that they’re not giving an inch on either side. And that’s when its just bickering. And I don’t know, I don’t know how to end that or cure that. I don’t know that we ever will. But I don’t think I’m really that politically one sided to have it that that has an effect on me.

C.11 Two social worlds – family does not belief in climate change
C: don’t know if my parents would talk about climate change, they definitely have an issue with that. My husband is off the wall with climate change.

C.12 **Environmental benefits as side benefit**
I: When you were buying your efficient car or all the things your doing in your house, did you think about climate change at all or did that come into your decision process either way?
C: not really to be honest. I think eventually it does but that was not my immediate thought. I think eventually it does. But even like with recycling, I don’t know if that’s my immediate thought. I think its in the back of m head because I know that every little bit helps but I don’t think its like oh I better do that for climate change. So, I don’t know. I don’t think that was forefront. I think ultimately that’s part of it but it’s subconsciously.

C.13 Infrastructural constraints
C: I mean in big cities I have no idea why you would do that I mean I definitely would commute if I were in a big city I mean use a train or a subway. But we just don’t have that here. So I don’t know I mean I just think people are too selfish to give up those luxuries.

C.14 lack of research on truck fuel efficiency
C: you know I had no idea that that truck we bought was going to be so bad for mileage. I knew we needed a bigger truck for the towing and hauling but when that hit we were jst like what are we going to do. So some of it is just like learning and then punting and being like we need to get a car and you know that’s what we decided.

C.15 Concerns about climate change and likely impacts
I: So one major issue that has to do with energy is climate change. So I’m wondering what are

your thoughts on climate change?
C: um, I'm kind of in the mix of it. Um you know I think the climate's always been changing but I also think that you know more people, more blacktop, more vehicles, I definitely think that's its having an impact on it. But like I said I'm kind of on the fence with it because I think with evolution and just things changing. I think it was going to change anyway. But I just think how can people not be impacting what's going on I the world. There's more and more people and more and more cars and more companies and factories and all of that stuff. So it's hard for us because I think we take it for granted with the family and driving around and what we have to do to get around. I don't know I think I'd be less vehicle if I didn't have the family. I mean definitely. I mean partly for the environment but partly to be selfish and not have to spend money on it. The amount of money I could save for oil changes and gas and all that, and plus I'd be helping the environment too. We recycle cans for sure. My dad drinks beer and he brings it and calls it my kids college fund. But all of his friends and everybody brings it to us. Because again our friends think it's silly to recycle because you don't get that much for it. But we recycle all our cans and anything we can do, we help with that like recycling.
I: so that's interesting you do it for your friends and family. That's cool. So would you say you are concerned about climate change?
C: um, I'm not sure. I mean I'm definitely concerned with but I don't know how much we can change it. I just think that people are the way they are, I don't if, I mean I'm concerned but I don't know how much we can change it I mean it's going to have to be a long process to be able to have people thinking about doing things differently. I mean you have all those big SUVs and big hunting vehicles and all these things that people are doing all the time. I have no idea how people can afford that. I mean in big cities I have no idea why you would do that I mean I definitely would commute if I were in a big city I mean use a train or a subway. But we just don't have that here. So I don't know I mean I just think people are too selfish to give up those luxuries.
I: yeah, that's interesting. And so what do you think will happen with climate change what are you thinking might be the future?
C: I don't know. I really don't I don't know how fast it's gonna go. I mean I definitely think it's going to be affected I just don't know how much. I mean the glaciers are going and I don't know. I don't know how much I'll see it in my lifetime, It's a slow process happening. I really don't know.
I: and do you have thoughts on kind of particular things you expect to change vs other things or?
C: um I think the landscape probably is the most you know with the glacier and the different things. And I think more and more people will change I don't know about the earth itself but I think that people will change with more regulations and stricter things with companies and vehicles and that kind of stuff. I mean it would be nice if we did have vehicles that you know we had companies that had to do better mileage, I think people would pay a little more for better gas mileage and I know they've been talking about it with the administration that they have to have so many miles per gallon on a vehicle before they could sell it. And you know I wouldn't be opposed to paying a little more to have better gas mileage.

Leo

Leo has a very different value set than the other interviewees in this idiographic analysis section. He holds strong 'humans over the environment' values, believing that the earth is here for humans to use to improve their quality of life regardless of impacts on other species or the environment in general. He also has a very personal, self-interested focus when it comes to environmental issues. For example, he explains that he is not concerned about climate change because he is not impacted by it personally, and any impacts he does foresee he thinks will be personally beneficial. Leo provides an example of how social justice values do not always work to support climate change mitigation. This interview is also interesting in that social influences do not seem to play a significant role in Leo's values or actions.

Personal history

Leo is a Montana native, who grew up in the Bitterroot valley area. Leo has personal experience with a very "low carbon" lifestyle --when he was a kid his family lived for several years in a completely "off the grid" house without electricity or running water. However, it does not appear that his parents were motivated to live this way by any interest in protecting the environment or reducing use of natural resources. Leo says that kind of self sufficient, settler lifestyle has romantic appeal to him but he also says it "sucked to live it." That "settler" lifestyle is quite different from the one he lives currently, in which he admits he can't live without cable, hot showers, and his electronic gadgets. Leo is a non-traditional college student (42 years old) in a business program. He lives in University family housing with his wife and three school aged children. Neither his life stage as a college student nor as a father seem to play a major role in his decision making about personal energy use and transportation, other than resulting in tight finances and requiring him to purchase some vehicles that can seat a family of five. He describes himself as a political moderate who leans right economically, favors the free market, and sees corporations and money as important. But he also leans left socially and says he largely disagrees with Republicans on religious and social issues. He describes himself as atheist. His political and religious views do not openly influence his core values, his personal energy or transportation behavior, or his beliefs about climate change. This is interesting because many other studies have found a correlation between the strong "humans over nature values" Leo holds and conservative political affiliation. This does not seem to be the case with Leo.

Values and worldview

Environmental values: the earth is here for human consumption

Leo's environmental values are quite different from most other interviewees and are the prominent theme of his interview. He believes that nature exists for human consumption; specifically for humans to use to improve their quality of life. For example, about the earth and natural resources, he says:

> "It's here and we should use this planet, you know, it's like I'm not going to curb my usage because I feel like I'm contributing to global warming. I don't think that – it's kind of like when the settler came to the forest, should I cut down those trees and build a house or not? Should I impact my environment? Yeah, if it makes your life better, you're going to impact your environment. If you need a house, then cut down a tree. (L.1)"

Leo also has mixed beliefs about humans' ability to impact the environment. On the one hand, he feels like humans have little large scale impact on the earth and are not responsible for major climatic shifts like those explained by climate change (L.2). On the other hand, he does see human impacts on the earth in local pollution to water and air, such as woodstove smoke impacts on local air quality in Missoula (L.3). However, he expresses no concern about the impacts of human actions on other species or nature in general. His concerns about local pollution seem to be based on personal experience with degradation to his quality of life.

Leo's beliefs about the availability of resources also illustrate his 'nature is here for human consumption' point of view. He does not think that resources are going to run out. Nor does he think there is a particular need to conserve resources to "be green" or for any other reason. He explains "I don't like turn off the lights to try to save the planet, I don't think that way at all." (L.16)

Leo also expresses a strong focus on his own self interest when it comes to energy, transportation, and environmental issues. For example, he explains that he is not concerned about climate change because he is not directly affected by it. In fact, he thinks he would like it better if it were warmer in Missoula, "so fire up the coal powered generators" he jokes (L.17). On the other hand, he is concerned about pollution when it has local and personal effects. Though he doesn't think reducing climate change is a priority, he does think that we should address local air pollution. He says he is glad that Missoula banned woodstoves because he used

to be bothered by the smell of the pollution. He is also glad that a local pulp mill was shut down because his aunt lived near there and the air is cleaner at her house now (L.3). His reasoning for wanting to reduce local air pollution is very personal -- it impacted him and his family -- rather than being based on any desire to protect the larger environment.

Overall, Leo holds the most anti-environmental values of any interviewee, believing that nature is here for human consumption. He does express some concern about local air pollution, but this seems primarily motivated by self interest.

Social justice values: others have the right to develop their resources and economies

Leo does express a value of social justice, or equity for less wealthy and powerful populations, but with very different results than the other interviewees in this study. All of the other interviewees who exhibit this value link social justice with a concern about the impacts of climate change on poor people and/or a justification for reducing climate change to limit those impacts. Leo on the other hand, uses a belief in equity or social justice to support his belief that people should not be forced to reduce their greenhouse gas emissions (L.4). For example, he says about climate change:

> "Well, yeah, we should probably do everything we can [to reduce climate change] but we still should be a human, we should build cities, dams and make our lives better. I think the billion people in China deserve the same quality of life that we have here. I don't think that we should be able to say, you can't build that dam and you can't have color TVs and you can't drive cars, we're driving cars and have all the infrastructure that's – it's a double standard. I don't want to give up my quality of life. I'm concerned about it [climate change] but I'm not going to give up my quality of life for it. It's kind of an honest answer." (L.4)

As this quote illustrates, Leo does have social justice values. But instead of motivating a desire to reduce climate change to protect less powerful groups as these values do for many other interviewees, they influence him to believe that we should not force major reductions in carbon emissions that would stop poorer people's ability to use natural resources in the same way Americans have to develop their economy and personal opportunities. Leo's interest in equity in opportunity and quality of life for poorer populations may also be a reflection of his beliefs about personal freedom – described in more detail below -- than feelings of social justice. In other words, his desire to see people in China get the same quality of life that Americans have may be at least as motivated by a belief in individual freedom to improve their quality of life as it is by a value of social altruism.

Consumption values and the role of government: free markets work

Values about consumption, capitalism and the free market or the role of government in society are not central themes of Leo's interview. However, the little he does say about these issues is worth including because they may help to explain his beliefs about what society should do to address climate change. Leo believes that free markets, corporations, and the private sector are the key drivers for developing and implementing lower carbon technologies (L.5). He also says that he leans a bit right politically on economic issues because he "sees the importance of corporations and money…" Among all the interviewees, Leo represents one of the strongest proponents of the free market and the private sector to address climate change.

Based on the content of this interview, Leo seems to believe that individuals and businesses should be free from government intervention. As described above, he believes that the free market and private sector will address climate change without government intervention. He also alludes to his dislike of the Republican party's social interventions based on their religious ideology, suggesting he believes that government should stay out of individuals' personal lives (L.6). However, he seems to express support for government regulations that reduce local air pollution, like Missoula's woodstove regulations (L.3) and the impacts the Kyoto protocol might have on local pollution by setting standards for coal fired power plants (L.7). Overall, Leo seems to value individual freedom over government intervention, with the possible exception of regulations that improve local air quality.

Actual decision making process

The most notable aspect of Leo's actual decision making processes on personal transportation issues is his very conscious and careful weighing of costs and benefits for different options. His description of deciding whether to drive or fly for a family vacation exhibits such a complicated decision calculus that it feels like a math story problem (L.8). He provides a similarly complex example of how he decided where to work over the summer based on commuting costs (L.8) and how he decided which vehicles to purchase based on overall operating costs (L.10). This careful decision making may stem from the realities of his financial

situation: he notes that he has a limited budget and has to be careful not to exceed his student loans each semester (L.9).

However, Leo may also carefully weigh costs and benefits because he values 'rational' thinking. For example, he explains that he does not like right-wing Republicans because he thinks they make decisions based on ideology rather than facts. Interestingly, though, some of the facts he uses to support his own decisions are not actually accurate. For example, he explains that he does not recycle aluminum cans because it is not cost effective. When in fact, it is widely demonstrated that recycling aluminum is the most energy and cost effective of frequently recycled items (Aluminum Association, http://www.aluminum.org/sustainability/aluminum-recycling). Similarly, he uses some facts about geological climate history to support his belief that climate change is primarily natural, but he leaves out other facts from climate history that support human causes of climate change. Leo's selective use of facts may illustrate that his starkly anti-environment values do in fact color his decision making processes by filtering what information he seeks and/or subconsciously allows into his more conscious decision making processes (Khaneman, 2011).

Personal energy and transportation actions

Leo exhibits a very low level of 'climate friendliness' in his personal energy and transportation actions. This is not surprising given that 'humans over nature' is the primary value or worldview of his interview. His belief that the earth is here for humans to use to improve their own quality of life does not motivate any efforts to reduce his environmental footprint. In terms of his specific transportation actions, he primarily drives to get around. He has three cars, none very fuel efficient, and a motorcycle (L.16). He drives to the Bitterroot valley for work every weekend. He says he does walk or ride a bicycle to school sometimes depending on the weather. However, it is actually surprising he does not walk regularly, given that his home is just a few blocks from campus. In addition, he notes that fuel economy was not as important in his vehicle purchase decisions as purchase price. He explains that buying an older less fuel efficient vehicle will cost him less overall than buying a newer more fuel efficient vehicle since he doesn't drive enough to recoup the higher purchase price, registration costs, and insurance costs on a new vehicle (L.10). His transportation preferences are also not low carbon: he says in an ideal world with no constraints on his travel, he would drive his pick up –his least fuel efficient vehicle -- all

of the time (L.16). Utilities are included in his rent and he does not make any particular effort to reduce in home energy use.

Beliefs about climate change

Leo believes that climate change is a natural phenomenon but that humans are accelerating it (L.1, L.11). He has by far the lowest level of concern about climate change of any interviewees in this study. Interestingly, this is not because he does not think climate change is having negative impacts on people, but rather because he thinks the impacts he personally will experience will be positive. He explains:

"Here in Montana I'm not too concerned about climate change. I tend – a little warmer weather wouldn't hurt us too much. It would probably benefit us. You shift that climate zone a little further north and all of a sudden we're in a little better situation. If you just take a look at 100 miles south of here, Salmon, Idaho, and it's beautiful down there, green summers and you just shift it a little bit, it doesn't seem – it's like, you know – it would be nicer if Cutbank was a little warmer in the wintertime, you know, I don't think – here, at this parallel – you know, if I was living on a coastal city with my house right on the beach and hurricanes and sea level rising, it might worry me a little bit more. But, here, a little shorter winter, a little longer summer, I don't really have that much problem with it. I say fire up those coal-fired generators, (laughs) you know, save me the trouble of moving south, just move south here a little bit." (L.17)

His very personal perspective on the impacts of climate change somewhat mirror his overall perspective that local air pollution is bad because it impacts him personally, but pollution like greenhouse gases that have broad global impacts instead of personal impacts are not a problem.

Leo says he does not seek out information about climate change, he just absorbs what is "fed to him" on the evening news. Interestingly, Leo initially seems knowledgeable about climate change as he drops quite a few facts about geological climate history (L.1, L.11). However, a careful reading of his facts about climate change suggest he has selectively picked only those facts that support his point of view that the climatic changes we are currently experiencing are a natural phenomenon and part of a long term climate cycle. This suggests he may be exposed to more conservative messaging about climate change, which often uses climate history selectively to disprove human caused climate change (Washington and Cook, 2011). In addition, he seems confused about the causes of climate change. For example, he recommends nuclear power as a possible solution to climate change, suggesting that he knows climate change is caused by burning carbon based fuels. But he also suggests, in the context of reducing climate

change, that we increase the use of coal-fired power plants in rural areas where there would be fewer people exposed to the pollution. He may be confusing local air pollution like smog produced by coal fired generators with the greenhouse gas emissions that cause climate change (L.13, L.14). Alternatively, given his expressions of concern about local air pollution throughout the interview, he may just believe that we should choose energy sources based on their impacts on local air pollution rather than on global climate change.

What should society do about climate change: business and market forces should take the lead

In keeping with his worldview that the earth is here for human consumption and his low level of concern about climate change, Leo does not believe that people should change their lifestyles to reduce climate change. Possibly as a result of his social justice values and/or his belief about individual freedom, he also does not believe that people in developing countries should curb their growth to limit greenhouse gas emissions (L.4). Leo also believes that individual behavior change has limited impacts on climate change. Instead, he thinks that market forces, corporations, innovation and new technologies will address the problem (L.12). He also thinks that technology and innovation will provide the necessary solutions to climate change. For example, he explains how vehicles are much quieter and cleaner now than they used to be due to technological innovations and he cites a new form of nuclear power as an example of technology that might provide a solution to climate change. (L.13) It is interesting to note that he focuses on innovation as the reason vehicles are less polluting today rather than the influence of government regulations. It could be argued that government fuel economy regulations in fact drove companies to develop these innovations.

Leo's views on the role of government in society and in addressing climate change in particular are somewhat unclear. He proposes that "talking heads" in government can ask for carbon reductions but it is really businesses that will lead the change. But he also praises regulation as the reason we have better air quality here in Missoula. Similarly, he seems supportive of the Kyoto Protocol, an international agreement to reduce carbon emissions, for its role in reducing emissions from coal-fired power plants. Overall, he seems to support government regulations that reduce the kinds of local air pollution he can experience personally but he seems to think business will be more effective in actually reducing climate change.

Summary

Leo is one of the few interviewees in this study who holds strongly "anti-environment" values. Also unlike other interviewees, he shows no personal interest in the environment or awareness of any social pressures to care about or preserve the environment. In fact, he appears to be largely uninfluenced by social norms or other social influences. Leo also has a very personal focus on pollution and other environmental issues. For example, he dislikes pollution that impacts him personally, like local air pollution and he is actually in favor of increasing climate change because he thinks it will make the weather better where he lives. This very self centered focus might suggest that Leo would not have any altruistic beliefs. But, adding to the complexity of his beliefs, he does in fact seem to support equity in quality of life and opportunity for people in poorer countries, suggesting he may hold some socially altruistic beliefs. Leo's interview also illustrates the possibility that the "facts" can be colored by underlying values. For example, though Leo clearly values careful, rationale decision making, he also seems to base at least some of his decisions on a limited set of facts that support his anti-environmental values.

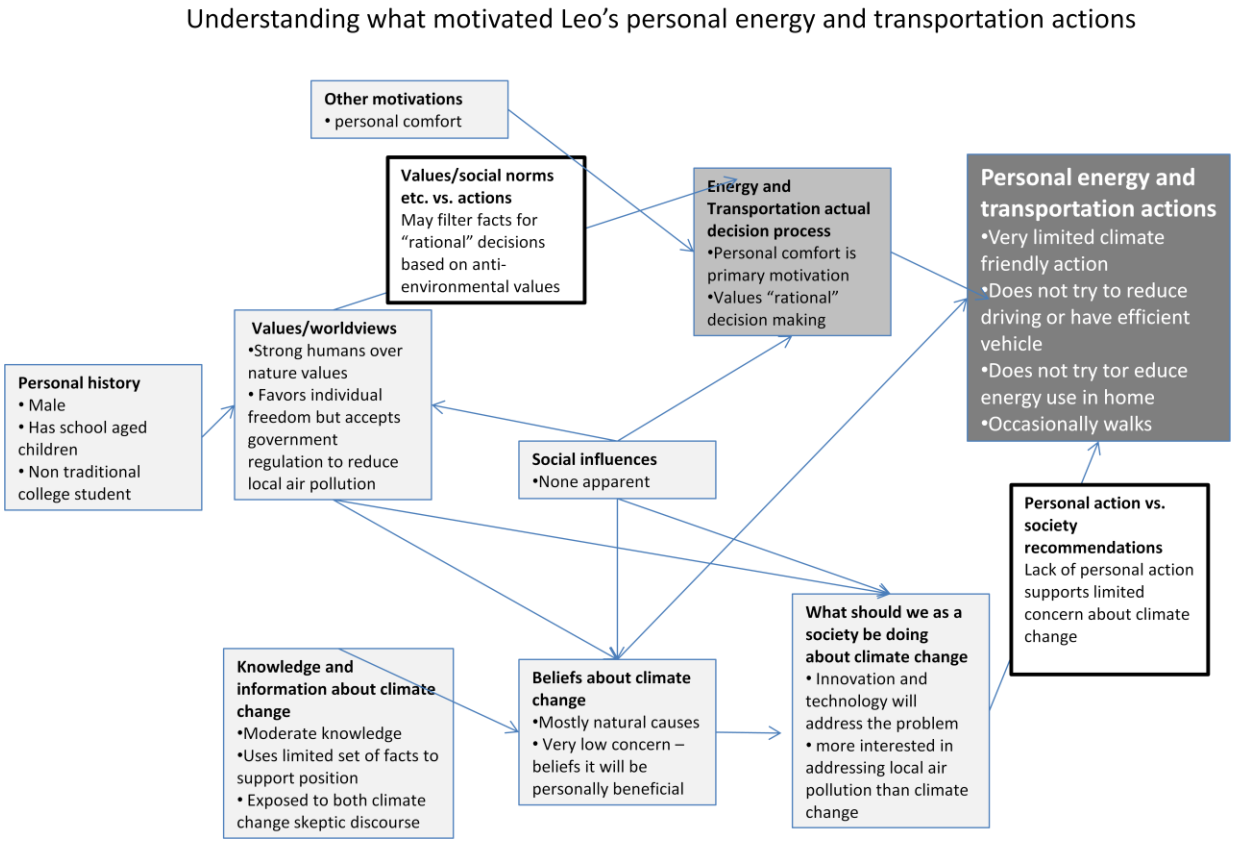

Figure 4.6 *Leo idiographic organizing system*

Leo Quote Table

L1. Mixed views on climate change causes and believe in "humans over nature" values
Leo (L):Well, yeah, definitely happening. I mean, it's been happening for 20,000 years, according to the fossil records. Like I said, do I think in the last hundred years of industrial revolution that humans have accelerated it by pumping out greenhouse gases? I think it's pretty obvious that it's true. It's here and we should use this planet, you know, it's like I'm not going to curb my usage because I feel like I'm contributing to global warming. I don't think that – it's kind of like when the settler came to the forest, should I cut down those trees and build a house or not? Should I impact my environment? Yeah, if it makes your life better, you're going to impact your environment. If you need a house, then cut down a tree.

L.2 Humans have limited impact on the earth; climate change a largely natural phenomenon
L: I think if you look at the earth from far away, you can't even see what humans have done but look at certain places, especially developing countries, that's – it seems pretty serious in developing countries. Humans are making more of an impact on their environment. So you do see some human caused global warming but like on the geological scale, it's like how much of it?

L.3 Local pollution can impact quality of life and should be addressed
L: Yeah. What can I do to change it [referring to climate change]? I'm not really a big policymaker. Should it [referring to climate change] be addressed? Yeah. I mean, pollution should be addressed. Just like living here in Missoula in the '70s when – fireplaces, and they put the ban on that, in almost all towns that are built in valleys in this region– look at Colorado, Denver, the problem with the inversions and wood heat, Missoula is such a nice, much nicer place since then, much, much nicer. We used to live in Stevensville and we'd come into Missoula and come shopping and it was – you could just smell it. The pulp mill being shut down and – wow, it's such a nicer place because of it. It concerns me that they're putting a big smoke stack here in the University with – just got rid of one smoke stack, why do you want to put another one up?
…
L: I think it's great that they're tearing it [Smurfit Stone pulp mill] down.
I: Primarily for the pollution? –
L: For the pollution, yeah. I have an aunt who has property out there within a rock's throw of the mill, and it is just so much nicer out there with it not running.
I: Yeah.
L: And I'm – I wouldn't fish out there. I wouldn't fish anywhere below that plant just because the smell while that place was running, you can't tell me there aren't pollutants.
I: Are you a big fisherman?
L: No, not really, but I would say – they can say it's as clean as they want to say but I've been out there and I can smell the toxins and stuff.

L.4 Social justice – other countries should be able to develop their quality of life like the US and we should not reduce growth or change lifestyles to address climate change
L: To say whether or not it's [climate change] accelerated because of human, probably is, there's probably no doubt that it is. Should we curb that? We can't say, Johnny, you'd better curb this,

look how we evolved over the last hundred years on an industrial revolution and all the pollutants that we pumped out and we said, well, look what we've done recently, you know, who are we to say to another country and a sovereign country like that that they shouldn't have the same kind of growth, same kind of – maybe with enough growth, they'll see that they have to fix that.
So you do see some human caused global warming but like on the geological scale, it's like how much of it? Should we do something about it? Well, yeah, we should probably do everything we can but we still should be a human, we should build cities, dams and make our lives better. I think the billion people in China deserve the same quality of life that we have here. I don't think that we should be able to say, you can't build that dam and you can't have color TVs and you can't drive cars, we're driving cars and you have all the infrastructure that's – it's a double standard. I don't want to give up my quality of life. I'm concerned about it but I'm not going to give up my quality of life for it. It's kind of an honest answer.

L.5 Free market and private sector will drive switch to lower carbon technologies

In response to who he thinks should lead the effort to address climate change, government, individuals, or business:
L: Well, big businesses, corporate America is the one really driving that. I mean, it's a huge investment in infrastructure to do something like that. So it's got to come from the private sector. I mean, with government support, I mean, so – the talking heads in Washington and Beijing, you know, they put out this we've got to lower our carbon footprint or whatever, but it's really driven by economic factors. That's where – everything costs money and I think that demand will come from the private sector, the economic factors will drive that.

L.6 Political views and role of government in individuals' private lives
I: How would you describe your political views? You said maybe a little –

L: Pretty mainstream. I would say not extreme one way or another. Being a student it's hard not to be a little bit Democratic, you know, maybe a little more on the Democratic side than I do the Republican side. Being an atheist, I'm not much of a Republican.

I: That's interesting. That's very tied to –

L: Republican – yeah, right wing. I think they're completely idiots. They base ideology on – you should look at some facts instead of ideology. So, yeah – because of my religious views, I tend to be a little bit more Democratic.

L.7 Role of government – support for regulations on coal fired power plants and local air quality
L: I think innovation and technology will take care of a lot of the individual polluting things. And hopefully, too, with – if they build a coal-fired generator and they set these standards, you know, like the Kyoto protocol and stuff like that, and say, yeah, if you're going to build this coal-fired generator, it's going to meet this polluting standard or you're not going to build it. So I think those are good things. I mean, it's nice to live in a place where there's great environment. I think it's important to see the environment has improved here in the last 30 years, just with regulations. Those are all good things I think.

L.8 Careful decisions based on costs
L: In the summertime, the kids' grandparents live in California, so we've just been talking about that. Are we going to drive down, leave them there for a month and then have them fly back? Or are we going to fly them down and then drive down and pick them up? Or are we going to fly them down and fly them back? So that's all – the decisions – I think it's pretty much made. I think we're going to drive down and fly them back. So that's a big trip coming up.

I: And what kind of factored into the different choices and why –

L: It's a $146 one way for each of the boys, the daughter is not – the youngest isn't going to fly, she's not going to stay down there for a month, she'll come back with – it would probably cost us $300 each way to drive, so you've got 5 people, $300, can go; 2 people, $300 can go. So that's kind of – airline's actually cheaper if just 2 people go, you know. So it's a $600 roundtrip to drive. So those are kind of the things that we look at for what's the cost benefit.

I: That's interesting. It seems like you've done a – did a lot of research.

L: Just as a matter of fact me and my wife talked about it last night, so we kind of made the decision last night. Things like commuting, you know, should I – come summer, should I work more in Stevensville? Or I've got an opportunity to do something here in Missoula where that will save me – if I go down and work for a hundred dollars a day in Stevensville and it costs me $10 each way to drive, really only making $90 and then I've got the extra time. If I could work here in Missoula for $80 a day, is that extra time worth the $10. So that's kind of that kind of decision-making when it comes to doing that.

I: That's interesting. You have a very carefully planned approach.

L: Well, it's not carefully planned. It's what's the opportunity, you know, but you weight the cost of the opportunity. I have an older car, you're driving it a bunch, you're going to have more repairs.

L.9 Financial limitations
L: We – we decided that it would be better to purchase vehicle for cash than have payments, so, you know, for a couple of different reasons, for the amount of insurance that you have to cover on a new vehicle, the payments versus not, and not having a payment and going to school where you get financial aid, you get a chunk of money and you have to make it last, which you're familiar with.
I: Yeah.
L: So each time we bought the vehicles it's been what we could afford at that minute.

L.10 saving money more important than better fuel economy in vehicle purchase decisions
L: Right now it seems like all my needs are met. We're really not looking to get anything else. The fuel economy versus price, if you buy a 10-year-old vehicle and you can afford to pay for it, you can afford – then you can afford to put gas in it versus buying a brand-new vehicle, it costs twenty, thirty thousand dollars, you're making payments on it, the gas mileage savings doesn't equate to the extra money that you're paying for a new car, unless you did a lot of driving. I

mean I don't really – I probably drive 120, 130 miles a week. So, you know, if I was commuting like from Stevensville back and forth, I was putting on 500 miles a week, like I had in the past when I was working full time up there in Stevensville, back and forth, and I would put 500 miles on a week, you know, and gas mileage starts to become more of an important issue.

L.11 Mixed views on causes of climate change

L: And all the greenhouse gas emissions, you know, you can't hardly say that humans haven't affected their environment but, on the other hand, looking on a geologic time scale, we've been global warming for at least 10,000, 15,000 years. We know that because of the fossils we find around here were arctic fossils, you know, mammoths and that kind of stuff, Glacier Lake Missoula and all that stuff, we're definitely in a warming cycle, have been for lots of years. To say whether or not it's accelerated because of human, probably is, there's probably no doubt that it is.

"I think if you look at the earth from far away, you can't even see what humans have done but look at certain places, especially developing countries, that's – it seems pretty serious in developing countries. Humans are making more of an impact on their environment. So you do see some human caused global warming but like on the geological scale, it's like how much of it?

L.12 Business, market forces and innovation will address climate change

L: Well, big businesses, corporate America is the one really driving that. I mean, it's a huge investment in infrastructure to do something like that. So it's got to come from the private sector. I mean, with government support, I mean, so – the talking heads in Washington and Beijing, you know, they put out this we've got to lower our carbon footprint or whatever, but it's really driven by economic factors. That's where – everything costs money and I think that demand will come from the private sector, the economic factors will drive that.

I don't know how much an individual changing their behavior makes a difference. It's like buying an electric car. I'm not polluting but to get that electricity to your house, they had to build another coal-fire generator, you know, and if enough people buy electric cars and build another coal-fired generator, that coal-fired generator puts out more pollutants than all the cars that it's able to power. On the big scale of things is the electric car the right answer? Well, the electric car might in net be more polluting than the gas car, than a high efficient propane vehicle or something. I think that it's interesting that the private sector, the corporations are trying to get out there and doing that, I think innovation will come along." "I think that with technology the way it is, the availability of information, and just how innovative people are, that there will be things that come along that are innovative and less polluting and there will be a change, a shift. Just look at the '70s, the 1970s vehicles that got 8 miles to the gallon and look how much better cars are now, they get 20 miles to the gallon, you can stand right next to a Honda Accord, you can't hear it running and you can't smell it, they've really improved the emissions on cars. I think innovation and technology will take care of a lot of the individual polluting things. And hopefully, too, with – if they build a coal-fired generator and they set these standards, you know, like the Kyoto protocol and stuff like that, and say, yeah, if you're going to build this coal-fired generator, it's going to meet this polluting standard or you're not going to build it. So I think those are good things. I mean, it's nice to live in a place where there's great environment. I think it's important to see the environment has improved here in the last 30 years, just with regulations. Those are all good things I think.

L.13 Technology and innovation as a solution to climate change and support of regulations that improve local air quality

L: So on – in terms of climate change, what do you think will happen in the future? Anything or are we going to see changes? What are you thinking?

L: It's sad what happened there in Japan with the nuclear crisis. I would like to believe that's safe, a safe alternative. Public support is going to be hurt by those incidents. I think if it's done right that nuclear is probably the way to go. I was interested to see that – I can't remember the company that applied for a patent for a nuclear plant that was about the size of a Volkswagen bus that would power a whole city like Missoula – actually I think the technology is evolved in it that it's getting safer. The sad thing about that is the terrorist threat, you know, because if you bomb a nuclear plant or something like that, that's – you really affect a large area. But I do think that that's probably the way that a lot of densely populated – France is really big into it – I think that nuclear is probably the way of the future.

I think that with technology the way it is, the availability of information, and just how innovative people are, that there will be things that come along that are innovative and less polluting and there will be a change, a shift. Just look at the '70s, the 1970s vehicles that got 8 miles to the gallon and look how much better cars are now, they get 20 miles to the gallon, you can stand right next to a Honda Accord, you can't hear it running and you can't smell it, they've really improved the emissions on cars. I think innovation and technology will take care of a lot of the individual polluting things. And hopefully, too, with – if they build a coal-fired generator and they set these standards, you know, like the Kyoto protocol and stuff like that, and say, yeah, if you're going to build this coal-fired generator, it's going to meet this polluting standard or you're not going to build it. So I think those are good things. I mean, it's nice to live in a place where there's great environment. I think it's important to see the environment has improved here in the last 30 years, just with regulations. Those are all good things I think.

L.14 – Response to climate change: improve local air quality, using locally polluting sources in remote areas

L: The east coast of the United States, they relied heavily on coal and oil burning and stuff like that. I think that that is – my wife was out in Boston this last year and I think they're really doing a lot to clean up the air in that part of the country. So more reliance on nuclear energy and grid systems that pump coal fire from the western states. Like Wyoming, they have – they're building coal fire down there. It – the pollution doesn't affect that many people down in Wyoming, you know, they can -- better grids will make that power more available on the east coast, less coal burning on the east coast. I mean, I think that's probably a pretty smart move."

L.15 Personal transportation actions and decision process

I: How do you get around town primarily?

L: Car and motorcycle.

I: And what kind of car do you have?

L: I have a '94 Buick Century, a 1995 Ford Windstar, '89 Chevy pickup, and a '93 Honda Shadow motorcycle. So we've got 4 vehicles.

I: And do you use them all equally or do you have one that you primarily go to?

L: I use the Buick most of the time. That's my car. That's my daily driver, or whatever. During the week when I'm going to school, the car sits most of the time. I ride either my bicycle or my motorcycle over to campus. I just live a few blocks away. Or walk – it's all weather dependent.
I: Yeah, sure. And then do you work in town or –
L: I work in Stevensville.
I: So you have to commute back and forth sometimes.
L: Yeah. 30 miles each way.
I: And do you work down there every day or –
L: No. I just work down there on the weekends, Friday and Saturday – Friday night and Saturday.
I: Okay. Terrific. And what appealed to you about those different vehicles that you have?
L: Price.
I: What made you want you to buy them? Price?
L: Price, yeah, definitely. Each one was price. It's all we could afford that would hold 5 people.
I: Yeah, good. To hold your whole family. Terrific. And did gas mileage play a role at all in the decision on any of them?
L: I suppose gas mileage played – made a difference when you purchased the van.
I: Is that the Windstar?
L: The Windstar. We looked at, you know, 5 to 7 passenger vehicles, and so you start looking at SUVs versus minivans, and the minivan kind of had – I mean, we looked equally at SUV and then minivan in the same price range, and gas mileage probably won out as the determining factor going with the van. It's hard to look cool driving a minivan.
I: I'm about to have a family, I know.
L: So the gas mileage – and it turns out that it's really not that big of a difference. I mean, if you look at a SUV has – gets 16 miles to the gallon, that Windstar only gets 18, 20. Maybe will get 20 if you take it on a long drive.
I: A little bit better.
L: It's a little bit better. It makes a big difference now when gas prices are going crazy, you know.
I: Yeah. Absolutely. And did financial considerations impact your decision at all? You mentioned the price, the purchase price of the vehicle.
L: Yeah. We – we decided that it would be better to purchase vehicle for cash than have payments, so, you know, for a couple of different reasons, for the amount of insurance that you have to cover on a new vehicle, the payments versus not, and not having a payment and going to school where you get financial aid, you get a chunk of money and you have to make it last, which you're familiar with.
I: Yeah.
L: So each time we bought the vehicles it's been what we could afford at that minute.
I: Sure. That makes a lot of sense. If you were going to buy a new car, not necessarily meaning brand-new but just another car, what do you think you would want to get? If you had the option to do it over again or you had to get another one.
L: Personally, a red two seater –(laughs)
I: Something fun.

L: Right now it seems like all my needs are met. We're really not looking to get anything else. The fuel economy versus price, if you buy a 10-year-old vehicle and you can afford to pay for it, you can afford – then you can afford to put gas in it versus buying a brand-new vehicle, it costs twenty, thirty thousand dollars, you're making payments on it, the gas mileage savings doesn't equate to the extra money that you're paying for a new car, unless you did a lot of driving. I mean I don't really – I probably drive 120, 130 miles a week. So, you know, if I was commuting like from Stevensville back and forth, I was putting on 500 miles a week, like I had in the past when I was working full time up there in Stevensville, back and forth, and I would put 500 miles on a week, you know, and gas mileage starts to become more of an important issue.
I: Yeah. That's a very good point. So I'm wondering in an ideal world with no constraints – now maybe we're getting back to your red two seater – how would you like to get around if you had no constraints whatsoever, what would be your ideal way to –
L: No money restraints, no –
I: No money, no constraints of any sort. No toting things around.
L: Yeah. If I could drive any vehicle, I would like to drive my pickup truck. It's got 4-wheel drive and 8 miles to the gallon (laughs). But I just use it when I need to because of the gas mileage. Yeah, if I could just drive anything, I really don't care. I'm more of a Point A to Point B kind of person. I really don't care how I get there. Maybe a segway. (laughs) Those might be fun.
I: And you mentioned the pickup truck that that's your favorite of the vehicles, what makes that your favorite?
L: Just the utility of it. You can haul things, you can tow things, you can take off road, you can – there's no place it won't go. Plenty of power, will go as fast as anything else. I probably like my pickup the best out of those vehicles. Only 1 other person can go with me.

L.16 Home energy use and motivations
L: here's a boiler for the hot water so you have limitless hot water, which is really important when you have 5 people living in an apartment. So I don't think they're very efficient. I think the building was built in the '60s, '70s. I don't think it's very efficient. It probably is pretty expensive to heat that huge building. There's no air-conditioning. So summertime it's hot. As far as like energy usage, we're fairly conscious about shutting lights off when we leave, leaving the heat down when we leave. I don't think we're energy hogs. I don't think – it's not like I'm – what's the word? – green by any means. I think there's probably plenty of electricity in Montana and we have hydroelectric dams and coal-fired generators, you know, so I don't think that – the rates are probably comparable with anywhere else. I don't like turn down the lights because I try to save the planet, I don't think that way at all. I just think that if you're not in a room, you shouldn't have a light on there. Why would you – on the other hand, 3 kids, TVs are on all the time whether they're in a room or not it seems like.

L.17 – climate change will benefit him personally
I: So would you say you're concerned about climate change or not so much or where would you say you are on that?
L: Here in Montana I'm not too concerned about climate change. I tend – a little warmer weather wouldn't hurt us too much. It would probably benefit us. You shift that climate zone a little further north and all of a sudden we're in a little better situation. If you just take a look at 100 miles south of here, Salmon, Idaho, and it's beautiful down there, green summers and you

just shift it a little bit, it doesn't seem – it's like, you know – it would be nicer if Cutbank was a little warmer in the wintertime, you know, I don't think – here, at this parallel – you know, if I was living on a coastal city with my house right on the beach and hurricanes and sea level rising, it might worry me a little bit more. But, here, a little shorter winter, a little longer summer, I don't really have that much problem with it. I say fire up those coal-fired generators, (laughs) you know, save me the trouble of moving south, just move south here a little bit. Yeah, it seems – from my perspective, you know, I'm 42 years old, have winters gotten less severe? '94 we had some really huge snow. This winter seems like it's dragging on forever. I think it's cyclical a little bit. It's hard to tell over the long-term whether Montana's really warming up. I don't really see it too much. So that's kind of – I don't mind global warming right now, maybe 30 years from now it might be more severe.

L.17 Information sources about climate change

I: Where would you say you get information about climate change? Is it something you seek out information about? Where would you say you hear it – you definitely know a lot about it.

L: Just from …it's on the news. We've got Steve Running here, you know. I didn't watch the movie, I didn't see the Inconvenient Truth. Did you?

I: I have seen it. Well, have I seen – I've read the book. I don't think I have seen the movie, actually. Yeah, I probably should see it since I'm doing research on this stuff.

L: Yeah, I think probably just what's out there, what's fed to me is where I – the CBS Evening News. I don't actively seek out a lot of information on global warming.

Tony

Tony provides a third example of someone who does not believe climate change is a primarily human-caused phenomenon. He is also one of the most politically conservative interviewees. Like Leo, he expresses some anti-environment beliefs about the relationship between humans and nature. However, Tony's environmental values are complicated and illustrate the fact that people often don't fit neatly into continuums and categories. Tony's personal energy use and transportation actions are not very "climate friendly." However, he also feels it is important not to waste natural resources, like energy, unnecessarily. He sounds a bit like Crystal in his discussion of not wasting money or natural resources. However, unlike Crystal, for whom saving money is a core value and not wasting means finding ways to consume less, Tony's thoughts on not wasting seem less central to his worldview and do not motivate him to consume less than he might otherwise want to. Instead, Tony's view of not wasting is more that he can consume all he wants, but he should not waste money or energy beyond what he gets enjoyment from using.

Personal history

Tony is a Montana native who currently lives in the Bitterroot Valley. Living outside of Missoula plays an important role in his transportation decisions as he does not have access to public transit. As he says: "we drive everywhere." His children are older, two in college and one just finished high school, but being a parent still seems to play a role his decision making processes about energy and transportation issues as his children live at home at least part of the year and he bought their cars for them. He is a self described political conservative and he puts a lot of faith in the free market. He spends his free time in a combination of outdoor activities and vehicle activities: he says he likes to hike and camp but he is also an "avid" motorcyclist and he spends a lot of his free time fixing up cars.

Values and worldview

<u>Environmental values</u>

Tony holds an interesting mix of environmental values. On the one hand, he has some anti-environmental beliefs. For example, he doesn't think that humans can impact the planet, or can only have very limited impacts compared to "Mother Nature" (T.7, T.6). He also does not believe that natural resources will ever run out. For example, he thinks we will always have enough energy (T.10). If we run out of gasoline, he explains, we can just switch to natural gas (T.9). These views are associated with low environmental values in previous studies (Dunlap et al., 2000; Dietz et al., 2005).

On the other hand, he does think it is wrong to waste natural resources. He says that "not wanting to waste a natural resource" is a primary motivation for reducing the thermostat in his home and for trying to have one fuel efficient vehicle in his family's vehicle fleet (T.1, T,2). He believes that not wasting natural resources is "just kind of trying to do the right thing" and he tries not "to use energy that you don't need to use."(T.3) However, he also says he would not change his lifestyle to reduce his environmental impact (T.9). Based on the combination of his beliefs about not wasting and his actual actions on home energy and transportation, his view on environmental conservation seems to be that you should not waste natural resources beyond what you actively want to consume, but it is not necessary to reduce consumption to save resources. Tony would likely agree with the idea that we shouldn't heat an empty room where no one is actively using the heat, but we don't need to put on a sweater just to use less energy to heat our house.

Tony expresses some interesting contradictions in his belief that humans can not impact the environment as if he is struggling with this issue as he talks about it. He starts off saying humans cannot impact the climate with our energy use compared to "Mother Nature." But he also wonders how we can't have some impact "with all the things we are doing." Though he talks back and forth on the possibility that humans cause climate change, he ultimately concludes that climate change is a primarily natural phenomenon. He says that climate change is "bigger than we are" and that if you look over the course of earth's history, the climate has always been changing and always will change (T.7). When asked what society should do about climate change, if anything, he again shows some cracks in his belief that humans can't impact the environment admitting that we don't know for sure what is causing climate change. "You don't want to change your lifestyle but you don't want to waste anything and –perhaps-- impact anything, you know, just because you don't know for sure," he explains. And a few sentences

later, he adds, “Well, I don’t know if we should or could do anything about climate change. I don’t know if that is even feasible. But, like I said before because we don’t know, I also don’t think that we should waste anything.” (T.9) Later on in the interview he comes back to human’s ability to impact nature in the context of forest management. He concludes that thought similarly: “So, I could talk back and forth on both sides of the issue for quite some time; but, in the long run, I don’t know if we could impact it enough to make any difference anyway.” (T.7) Clearly, Tony is struggling with the issue of whether humans can make a significant influence the environment or not.

Consumption values

Tony’s struggle over humans’ ability to impact the environment may be related to his views about consumption and an underlying desire not to have to change his own consumption or lifestyle due to impacts on the environment. In both his words and his actions, he makes it clear that he does not think a high consumption lifestyle is a problem. For example, he has eight vehicles for a family of four, plus motorcycles. His wife has a both a Cadillac and a convertible, hardly a low consumption approach to life (T.1). Similarly, he has no guilt about driving a highly inefficient vehicle or living somewhere that requires him to drive everywhere. He also says that in his personal energy and transportation decisions, function and comfort always come first, and the environment is at most a background consideration (T.4). Though he does believe we should not waste natural resources, he falls short of suggesting we should actually limit consumption. For example, about climate change he says:

“I don’t know what we should do. I don’t think it is worth changing our lifestyle and sit around in a freezing cold house and not going somewhere because we don’t want to waste energy or burn a fuel to get there. But, I guess that is a great question and I haven’t thought enough about.”(T.9)

Though he does not say this, it seems possible that part of his struggle over human’s impact on the environment reflects the fact that he does not want to change his lifestyle, so he does not want to believe that humans –including himself – are having negative impacts on the environment. It seems like he might feel more pressure to reconsider his lifestyle and consumption choices if he was forced to conclude that his actions were harming the environment.

Tony puts some emphasis on saving money, which might seem like a value of limited consumption. For example, he says he always buys cars used, so that someone else has borne the cost of their depreciation (T.1). He also says that half of his motivation for turning down his thermostat during the day is saving money (T.2). However, based on his overall lack action to conserve money (for example, he has eight cars for a family of four even if they were all purchased used) as well as the limited role that saving money plays in the course of the interview compared to other topics, this does not seem like a central value to him. Instead, it seems like Tony's views about money and consumption overall are similar to his views on natural resources: consume all you want but don't waste resources without putting them to a purposeful use.

Role of government

Tony does not say a lot about the government's role in society. But the little he does say makes it clear that he believes government's role should be quite limited. When asked who he thinks should be taking action, if anyone, to address climate change. He expresses strong negative feelings about government getting involved. "Do I think it should be the government that does it?" he asks, "No (emphatically). Not a chance because I don't think the government does anything well."(T.9) Consistent with his conservative political stance, Tony seems to believe government is ineffective and should have a limited role in society.

Personal energy use and transportation actions

Tony's personal energy and transportation actions are generally not climate or environmentally friendly. As described previously, the vehicles he drives are not fuel efficient and he explains that fuel efficiency is not a priority to him compared to function and comfort (T.1, T.4). His primary vehicle is a Suburban, one of the least fuel efficient passenger vehicles available. He also has chosen to live in a location that requires him to drive everywhere and his description of his ideal means of transportation (a more fuel efficient Suburban) suggests that he would not use mass transit even if it were available (T.1). In addition to driving for regular day to day needs, driving motorcycles is one of his favorite pastimes. Overall, he has a very vehicle centered – and fuel consumptive -- lifestyle.

His approach to energy use in his home is slightly more efficient. His family keeps the heat turned down to 65 degrees in the house during the day when they are away and they only turn it up when everyone is home at night (T.2). However, he does not mention any other home energy efficiency investments or behaviors.

Actual decision making process

Environmental considerations do not seem to be top of mind for Tony in most of his major personal energy and transportation decisions. Instead his top decision criteria are function and comfort (T.1, T.2, T.4). For example, when asked what appealed to him about his vehicles and his house when he bought them, neither fuel efficiency nor energy efficiency were important enough criteria to mention (T.1, T.2). He explains that he bought his vehicles based on comfort and utility and his house based on its large size and good views (T.1, T.2). He also specifically explains that he is not willing to compromise comfort for fuel efficiency in his vehicles (T.4).

On the other hand, Tony says that fifty percent of his motivation to reduce his thermostat is a desire to "not waste natural resources." (T.2, T.3) Similarly, his ideal mode of transportation – a Suburban that could get 40 miles to the gallon – is also partly motivated by a desire to not waste natural resources (T.1). He describes this desire to not waste as "the right thing to do," which suggests that he is influenced by a social norm and/or a personal value to preserve the environment (T.3).

The other half of his motivation for these "efficiency" focused actions is a desire to save money (T.1, T.2, T.3). As described previously, saving money does not seem like a strong value for him. It also does not seem to be a necessity of his financial situation. Even though he says that he always buys used cars to save money, he still has more than eight vehicles for a family of four. He also has a house with a "great view" in the Bitterroot valley. All of these things suggest he is not in an extremely tight financial situation. His rationale for saving money seems more linked to his views on not wasting: consume whatever you want but don't waste needlessly.

Habit also seems to play a role in his decision making process. He explains that keeping the thermostat down is "just kind of how we operate. It's just kind of a lifestyle. Not something we discuss" (T.5). This suggests that for Tony, transportation and energy choices are not highly conscious choices on a day to day basis as they are for other interviewees like Glen. This would be consistent with his apparent belief that we do not need to reduce energy consumption, his

relatively low prioritization of preserving the environment compared to other things, and the fact that he does not need to prioritize saving money.

Overall, Tony's decision making process about personal energy use and transportation seem to be mostly dominated by personal comfort. His desire to not waste – either natural resources or money – also play a role. But overall, he seems primarily motivated to be comfortable rather than to conserve.

Beliefs about climate change

As described previously, Tony believes that climate change is a primarily natural phenomenon. He is also not that concerned about it, largely because he believes it is a natural thing and climate is always changing (T.7). The potential impacts of climate change that Tony expects to happen sound fairly minor to him, more inconveniences or neutral changes than anything worrisome. He says that he thinks there will be impacts on skiing and glaciers melting. But he notes that many of the ski resorts he thinks will be impacted are at "ridiculously low elevation," almost as if it was dumb to build there in the first place rather than that climate change is the reason they will be left without snow (T.8).

Tony does not say a lot about climate change that can be used to judge his overall level of knowledge or where he gets information about climate change. He clearly understands that vehicle emissions and emissions from power plants impact climate change. For example, he proposes that electric vehicles might not be a great solution to climate change if the electricity used to power the vehicle comes from coal-fired power plants. Based on his belief that climate change is primarily a natural phenomenon and part of a natural climate cycle, he may be exposed to more conservative messaging about climate change which focuses on this explanation for climate change (Washington and Cook, 2011). Though Tony does not discuss his feelings about science, it seems likely that like many other climate change skeptics he does not have great trust in scientific findings or the scientific process. For example, he proposes that society should only do something about climate change IF it is a proven fact that fossil fuels and human activity are causing the problem (T.10). Given that there is a very strong scientific consensus that these are in fact causing climate change, Tony may not have great trust in science.

<u>What society should do about climate change</u>

Tony's thoughts on what we as a society should do about climate change reflect his conflicted views on whether or not humans can impact the environment or climate. For example, he says that he is not sure if we should or could do anything to reduce climate change, since humans likely are not the cause of the problem and may not be able to impact the environment significantly (T.9). As described previously, he also does not believe that society should do anything about climate change unless it can be proven that humans are causing the problem (T.10).

Tony is also quite clear that we should not change our lifestyles to reduce climate change. For example, he says that it's not worth sitting around freezing or not driving where you want to go because of climate change (T.9). Instead, he expresses a faith in technology and the marketplace to address any possible need to reduce emissions implying that lifestyle change will not be necessary. His faith in the marketplace is reflected in his suggestion that if we need to move away from gasoline to a lower emission fuel, we just need to raise prices on gas and a whole bunch of other, lower emission, options will become viable (T.9). He seems certain that the marketplace will take care of alternatives and we will not need to drive less. This belief that we won't need to change our lifestyle seems in keeping with his overall view that we can consume all we want, resources won't run out, and our actions are too small to impact the environment…at least by very much.

He is emphatic that government should stay out of any efforts to address climate change because they do not do anything effectively (T.9). Instead, he implies that the marketplace will move us to lower carbon fuels IF it is proven that climate change is caused by fossil fuels. While he has a strong belief in the power of the marketplace, he is also aware that market based changes are not pain free. He notes that prices will go up "and it will costs us a lot of coin" to make this kind of transition (T.10). But he does not suggest that there should be any attempt by government, or any other entity to instigate or ease the pain of a market based transition to lower emission technologies. This belief may reflect his conservative political stance, which typically includes a preference for small government and free markets.

In his personal life, Tony seems to have an insurance policy approach to climate change. He's not sure that we can actually do anything about it or that we are causing it, so he's not going to take any major steps to change his lifestyle. But, just in case we are the cause, he turns down his thermostat so he is not causing unnecessary emissions. This fits with his overall views

about consumption: no need to curb consumption but also no need to waste unnecessarily either. It also illustrates the complexity in his thoughts about climate change and the internal struggle he exhibits about whether humans can or cannot significantly impact the environment.

Summary

Tony's interview is interesting in part because it shows that people's values and beliefs don't always fit neatly into predetermined continuums and profiles. Tony is a political conservative who believes climate change is a primarily natural phenomenon. He is unsure society needs to do anything to try to reduce climate change -- or that humans even could impact climate one way or the other -- but if we were going to try to address climate change, he is strongly opposed to the government being involved at all. All of these beliefs suggest that Tony is a pretty straightforward, right wing, climate skeptic. But his interview illustrates interesting complexities and contradictions in his beliefs and values. For example, Tony holds some anti-environment values, like believing that natural resources will ever run out that humans cannot impact the environment very much. But, he also believes that not wasting natural resources is the "right thing to do" and his desire to not waste natural resources motivates some of his transportation and energy actions. Tony's internal struggle about the ability of humans to impact their environment may reflect tension between the fact that he does not want to feel that he should change his lifestyle and an underlying concern that his lifestyle may in fact be causing substantial environmental change.

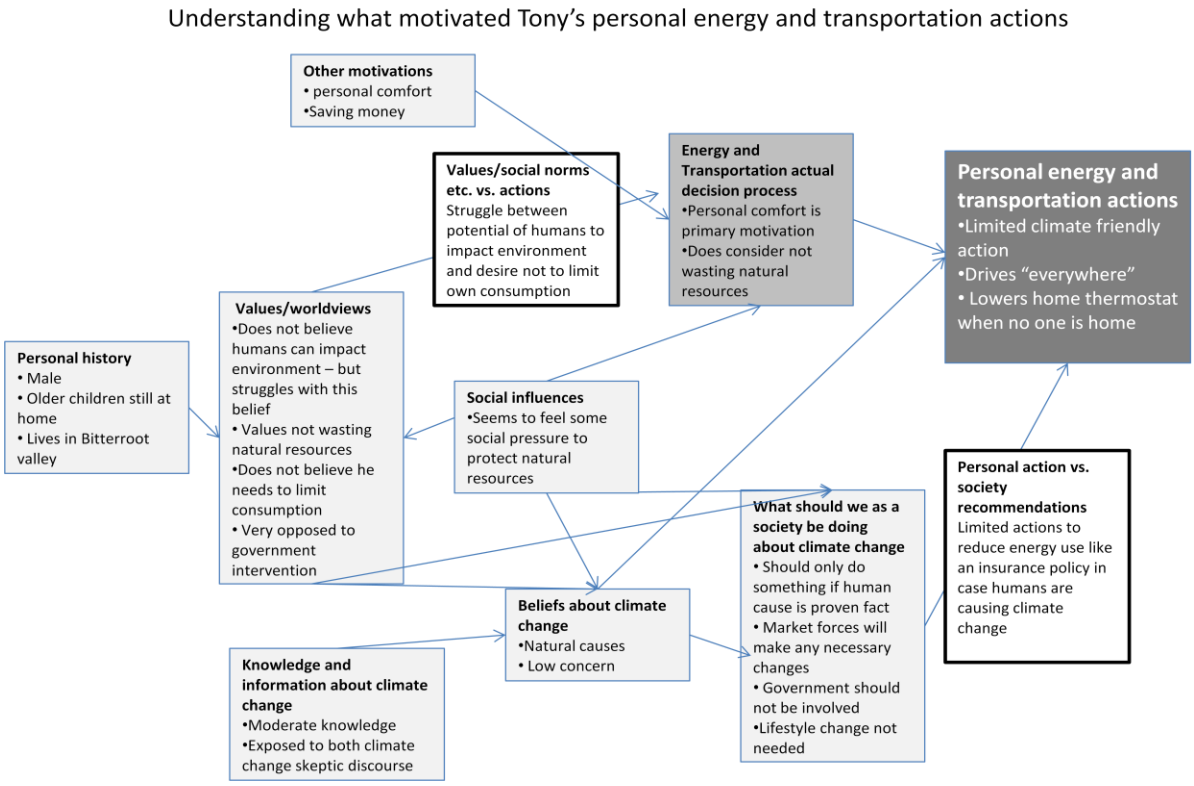

Figure 4.7 *Tony idiographic organizing system*

Tony quote table

T.1 Transportation actions and motivations

Interviewer (I): So what appealed to you about that car when you bought it?

Tony (T): I just think it is the safest car on the road. For me now, it has tons of room so I can have all my tools and everything is always locked up and out of the weather. I have owned four Suburbans and I bought the first one after I was coming back from a hunting trip on icy roads and I had a short wheelbase four-wheel drive at the time and I have never been so scared in my life. I went out a couple of days later and bought a Suburban and they are just a great vehicle. They ride nice. They are safe on bad roads. Other than the fact that they don't get fantastic gas mileage, that is the killer.

I: But, yeah, good for around here in the kind of conditions we have. So, I am actually wondering… my next question was going to be did you consider gas mileage at all when you bought this car?

T: Yeah, and we always try to have a vehicle that gets good gas mileage to take on (inaudible) and stuff. But, the main reason for that vehicle, I guess, was not gas mileage; it was function.

I: So do you have another vehicle in the family?

T: We do. We have lots.

I: And what are the other vehicles?

T: Well, I have another Suburban which I have one for work and one that is kind of the family vehicle. [Conversation with son.] Then, beings as I am an avid motorcyclist, my wife needed a convertible so we have a Cutlass convertible and that is her car. And then her main car is a Cadillac and then my son has a Jimmy. My oldest daughter has a Buick Century. My youngest daughter has a Toyota Camry and we have a Ford conversion van. And then I don't even want to get into our list of project cars because that is what my son and I do. We buy and sell a few cars and fix them up and so we have a fleet.

I: It sounds great. It sounds like you have a whole dealership down there.

T: Yeah, exactly.

I: So, just to focus on your primary vehicle, the Suburban that you mentioned as your primary vehicle, we talked about gas mileage, did financial considerations impact your decision at all?

T: Financial? Of course.

I: And, talk me through that a little bit. How did you think through that when you were buying the car?

T: Well, I don't buy anything new. I always buy them depreciated out so I let someone else buy them and depreciate them and then I buy them. Now, beings as I am a contractor, I always have a couple of cars that I am working on in case work is slow, then I will buy a car that has a mechanical problem, fix it and resell it or if it has a little bit of body damage, then I will fix that and resell it. So, half the cars are cars that I have bought doing that that we still drive, that we decided to keep. As a matter of fact, the cars that we are planning to keep the Cutlass, the Cadillac, the one Suburban, the Ford were all cars that I bought needing something and then just decided to keep. I am very frugal so I always buy them very cheap and fix what is wrong with them and either keep them or resell.

I: Great. That makes a lot of sense. So, I am wondering, in an ideal world, how would you like to get around? What would be your ideal to get around?

T: Well, like I said, I am an avid motorcyclist, so in the ideal world every time I went somewhere, I would be on my bike. But, obviously, that doesn't work in my real world. I guess the Suburban fits me to a T and it is older but it does everything I want it to and it works well. So I guess I don't have any complaints with the way I get around now. I am sorry. I guess, in the ideal world, you are right, the Suburban would get 40 miles to the gallon.

I: Yeah, I am sure…

T: Or else it would be electric, but well of course, with electric your burning coal or something else because of power, so that all sounds good, it is a big win. But, I guess, if the Suburban could get the mileage of a smaller vehicle, then that would be the ideal.

I: Yeah, that would be great. What is the primary motivation behind wanting to get better gas mileage?

T: I guess it is 50/50: financial and not wanting to waste a natural resource.

T.2 Home actions and motivations

I: So what appealed to you about the house where you live now?

T: It was the right size and it had a tremendous view. We have always had houses with a good view and this one certainly meets the criteria.

I: Just tell me a little bit about energy in your house. Is it something that you guys think about, or how do you decide where to set your thermostat or that kind of thing about energy use in your house?

T: We certainly are cognizant about that. My wife works out of the home and so a lot of times she is the only one home. So, rather than heat the entire house to a comfortable temperature, she has – I can't remember what she calls it – it is an individual room heater in her office and so she will keep her office nice and toasty but the rest of the house we keep at 65˚ most of the time. We don't really turn it up until we are uncomfortable. So when everyone is finally getting in at night, then we will kick it up. But, we never heat the entire house toasty warm (laughs); we just don't.

I: So, just kind of walk me through your thought process on not heating the whole house, kind of what motivates you on that decision.

T: The same things: financial and not wanting to waste energy.

T.3 Motivations for actions – 50% financial, 50% not wasting resources

I: So how did you get started would you say in terms of your two primary interests that you mentioned in terms of not wasting money and not wasting resources, is that how you grew up? How did you come to think about those things?

T: Well, I think the financial one is just the same as most people – well, not everyone – but a lot of people live on a budget so there is no sense wasting money on something where money doesn't have to be spent. So that is the financial end of it. And then the natural resources is just kind of trying to "do the right thing" and not wanting to use energy that you don't need to use.

T.4 Motivations for action – function over environmental issues, don't want a little crappy car

T: It [climate change and energy security] is probably in the background but it is not a primary thought by any means. The function is always the primary and that's gonna be the comfort of the vehicle. We had a vehicle that got tremendous gas mileage. At the same time I had a newer full-sized Buick and I had a Toyota Scion that got great gas mileage. But where we live and we are always on the highway at highway speeds, the difference between a full-sized Buick and a Toyota Scion is minimal. It is in-town driving where you get the big difference. And so it was uncomfortable, and noisy, little crappy car – I mean a great little car – but it wasn't the comfort. So I sold that and that is why we have the Cadillac because on the highway it gets tremendous gas mileage. It is just ridiculous what a big car gets; it is just in town where it does so bad. So, I guess it all plays a part in every decision. But, in our case, it came down to what did we want to drive. We didn't want a noisy little car. We wanted a big, quiet, comfortable car [laughs].

T.5 Decision making process – incorporated lower thermostat into habits

I: Would you say that you guys as a family talk about energy or transportation or not so much? Do you talk about like "turn down the thermostat" or "don't use so much gas" or is that not so much a topic of conversation either within the family or among friends?

T: It is not really a topic of conversation. It is just kind of a lifestyle. It is how we operate our house but it nothing that we discuss.

T.6 Environmental values – humans can't impact the environment…well maybe…

T: I even think there is a bigger question here is that is is our forest management plan completely out of whack with Mother Nature. I said before, Mother Nature is stronger than what we are. So, is the way that nature used to maintain the fires in our forests and is so much better than the way we maintain the forests now. Now when we do get a fire, it is just crazy whereas back in the days when they would burn periodically, you never had thousands and thousands of acres ready to go at once. You know, you had smaller areas or even back to a different management of the forest on the human end. Maybe we need to go back in and start doing some selective thinning and start harvesting this commodity. But, then again, if there is no place to take it to market, what good does cutting them down do you? You know what I am saying? There are no mills around here anymore anyway. So, I could talk back and forth on both sides of the issue for quite some time; but, in the long run, I don't know if we could impact it enough to make any difference anyway.

T.7 Environmental values/ causes of climate change – humans can't impact the planet as much as mother nature

I: I am wondering first of all what are your thoughts about climate change?

T: Well, I am kind of split on it, to be honest with you. I look at the national events with volcanoes, and forest fires, and everything going on and we can't even touch the kind of things -- the particulates -- that are put into the air with our energy use compared to what Mother Nature does on her own. So, I don't know if I buy all that. On the other hand, you wonder how can we not when we are doing all of this? So, I don't buy in to either end of the argument quite frankly that we are causing it on the one end and that we are not doing anything on the other. I guess I fall somewhere in the middle on that.

I: Would you say it is something you are concerned about that climate might change or is changing or that it is not so much a worry?

T: I think the climate is always changing and has always been changing. I think the main premise of your question is whether or not it is human caused. I don't know if we can influence it quite frankly. I almost believe it is bigger than we are. But, when you look at all the different stages that the earth has gone through over the thousands of years and we know that it has been changing forever and it is probably going to change. Definitely right now I think it is warmer, we don't have the crazy winters we used to have and so I don't know if that is just climate change, global warming, you know whatever; but I kind of lean just to climate change and that it always is changing.

T.8 Likely impacts of climate change

I: Do you feel like climate change is happening now? What do you think will happen? What do you expect is going to happen in terms of climate change? Do you think it is something you will see in your lifetime that will impact you personally or is it further out? How do you kind of see the future unfolding?

T: I think that we will definitely see these kinds of events because we already can, you know, in that I am also an avid skier and so you have all these huge resorts in Europe and that the base of them – and some of them are ridiculously low some of them, might be 3800' or something and they aren't getting snow any more. You see the exposed ski area just south of Lolo that I don't think they could open last year, even if the ski area had been approved, I don't think they would have had enough snow to open. It just wasn't there. And so I think again in that respect where we are already seeing a change in places that historically had more snow are not getting it. We are seeing glaciers melting and in Glacier and it has been melting forever, ever since they no longer were being formed, they started melting but of course the pace has increased dramatically. You see the same thing with an ice cube. You set it on the counter and it doesn't seem to melt much then as it gets smaller, it melts more rapidly because the surface area is able to be warmed. So that is a natural occurrence in my opinion. But, I think we are seeing a change already.

T.9 What we should do about climate change

I: What do you think, if anything, we should do about climate change?

T: Well, shoot, I don't know. I guess maybe that is why we kind of operate the household – other than our vehicles because we all drive wherever we go. But, as far as the house and keeping it running, I guess, you don't want to change your lifestyle but you don't want to waste anything and –perhaps-- impact anything, you know, just because you don't know for sure. I don't know what we should do. I don't think it is worth changing our lifestyle and sit around in a freezing cold house and not going somewhere because we don't want to waste energy or burn a fuel to get there. But, I guess that is a great question and I haven't thought enough about.

I: Sure. That is a very fair answer. Would you say, in terms of making efforts on climate change, that individual people like you and me, or do you think government, or do you think businesses should be taking more of the action?

T: Well, I don't know if we should or <u>could</u> do anything about climate change. I don't know if that is even feasible. But, like I said before because we don't know, I also don't think that we should waste anything. Do I think it should be the government that does it? No. Not a chance because I don't think the government does anything well. I think if it was a proven fact that it was fossil fuels and etc., that were causing it, then the obvious solution is to raise the price on gas and then all of a sudden there are a lot of options that become viable because we have more natural gas in this country than we know what to do with and it burns cleaner. We just have to

get the right way to dispense it to customers which is the big issue. We already have the vehicles that can run on it. We just need to have a way to get it out to the customers like we do with regular gasoline. So, the price thing works. If it becomes so expensive that there is a market for it, then all of a sudden it becomes feasible for someone to develop it and they will.

T.10 Won't run out of resources and free market will make the transition

T: Okay. I really think that is two questions. As far as the energy security, that has never even crossed my mind. I feel secure that we will always have enough energy. As far as being independent, with our current usage, I don't think we ever will. I mean it just doesn't make sense. You know, when you can get it overseas for what we can get it for now why wouldn't you? And if it became more expense to get it from overseas, then we have the next natural resource right here – natural gas – and that will be developed. We have the technology already. So, it doesn't concern me; it doesn't bother me. I guess if it ever did happen, it would bum me out. You know gas prices are going to go up for a bit until they get the options working. So on the security end of it I have no worries because I am secure that we will always have the fuel that we need. On the independence end of it, it doesn't worry my either. But, I know that when we finally cross that bridge, it is going to cost us some coin [laughs].

Idiographic analysis summary and conclusions

This chapter provides an in-depth analysis of six of the 21 interviews used in this study. I first explained the organizing system that I used to analyze the interviews. The organizing system was developed after the interviews were conducted from the interview data themselves, rather than as *a priori* model against which the data was tested. It provides a flexible tool for understanding the key components of individual's personal energy and transportation decisions and their beliefs about climate change. The organizing system also helps to explore and illustrate the connections between different elements of individual's actions and beliefs.

The majority of this chapter provides an in-depth analysis of six different interviews. I chose to include these six interviews for several reasons. First, they illustrate the overall diversity of my sample across my key sampling criteria: overall level and types of climate friendly actions, beliefs about climate change, values and worldview, and life stage. For example, four of the interviewees presented (Maya, Glen, Joel, and Crystal) exhibit a high level of "climate friendly" actions, while two (Tony and Leo) do little or nothing that reduces the carbon footprint of their energy and transportation use.

The six also represent diversity in types of climate change action. Maya's primary actions are transportation related and behavioral rather than technological: she reduces her use of a personal vehicle by riding the bus, walking, and living in a location that allows her to use these alternative forms of transportation. Crystal's primary climate friendly actions are at home where she goes to great lengths to limit energy use but she also has purchased vehicles based on fuel efficiency. Glen makes extensive efforts to reduce his use of personal vehicle and he to reduce his home energy use. Joel doesn't do that much to reduce his home energy use but he does not even own a personal vehicle, relying entirely on alternative forms of transportation. He also engages in a high level of climate change related political activism.

The six also represent different views about the causes of climate change: Maya, Joel, and Glen, believe climate change is primarily caused by human action while Crystal, Tony, and Leo believe it is a primarily natural phenomenon. These six interviewees illustrate variety in values as well. For example, Maya, Glen, and Joel have clear pro-environmental values, believing that natural resources are finite and that humans can impact the environment and have a responsibility to limit this impact. Crystal and Tony have some pro-environmental values, believing they have some responsibility to preserve natural resources, but this is not a driving

force in their lives. Leo exhibits no concern for protecting the environment, instead believing it is here for humans to use to improve their quality of life. They also illustrate differences in values about consumption. Maya and Joel view consumption as a strongly negative element of American culture. Glen and Crystal don't seem to believe consumption is a bad thing but they both try to limit their consumption. Leo and Tony seem to believe there is no need to reduce consumption.

The six also reflect diversity in life stage. Maya is an empty nester with kids who have grown up and moved away; she makes decisions about energy and transportation without having to consider a family. Glen and Crystal are both parents of younger children, which figures prominently in their energy and transportation decisions. Tony is kind of in between, his kids are all out of high school but they still live at home at least part of the year and figure into his energy and transportation decisions. Joel is a younger college student with no kids, which also influences his transportation options and home energy use actions. As explored throughout the individual analyses, the six interviewees also illustrate different kinds of social influences, a range of points of view on the proper role of government in society and, often related, a wide variety of different recommendations for what –if anything – society should do to address climate change.

I also chose these six interviews because they illustrate key findings from my idiographic analyses of all twenty one interviews. For example, Maya and Crystal illustrate that environmentally focused values are not the only kind that can motivate people to take environmentally friendly actions. Maya is motivated by a belief in the importance of community and Crystal is motivated by a strong value of frugality. Maya, Glen, and Joel illustrate that there is significant variety in the overall category of "pro-environmental" values, which has important impacts on personal actions that reduce climate change and beliefs about what society in general should o to reduce climate change. Tony's interview shows how difficult it is to neatly categorize people based on their values and beliefs. Though Tony seems like a straightforward, conservative climate skeptic, he actually has some pro-environmental values and is motivated to reduce his energy consumption to preserve natural resources. Glen and Crystal's interviews illustrate that there is often a disconnect between values and preferred actions and actual behavior and emphasize the importance of understanding an individual's actual decision making process as a way to understand these discrepancies between values and actual actions. Joel and

Glen provide an example of the role that membership in a social network or social movement can play in motivating climate friendly behavior. These conclusions will be explored in more detail and across more interviews in the next section, a nomethetic analysis of trends and themes across interviews.

These interviews illustrate a key finding of my overall analysis: the interconnections and interactions within an individual's beliefs, values, experiences, contextual factors, decision making processes, and actions are critical for understanding why he or she makes their energy and transportation decisions and why he or she believe as they do about climate change, a critical energy and transportation related issue. Each interview yields results that would likely be missed or would not be understandable without the context provided by an idiographic analysis. These findings include the importance of understanding how people frame their own values, the variety in how people interpret seemingly similar values, and the importance of understanding the nuances underlying motives behind people's actions and beliefs. In the list below, I provide one key finding from each interview that I believe would not have been revealed without in-depth idiographic analyses of each interview. Many of these findings are important themes that ran across multiple interviews, and I address those in more detail in the next chapter on Nomethetic Analysis.

- **Maya** - It might be hard to understand why Maya, who seems to have pro-environmental values and clearly cares a lot about transportation issues did not consider fuel efficiency when buying her car. However, this decision is made more clear by the additional insights the interview provides on her interconnected values about community, social connection, consumption, transportation and community planning. Because Maya is primarily motivated by community-focused values, not a concern about environmental impacts of vehicle emissions or climate change, fuel efficiency is not that important to her.
- **Glen –** There is contradiction between Glen's high level of personal climate friendly action and his belief that individual action will do little to reduce climate change. This may seem odd. However, his interview reveals possible explanations for this apparent contradiction. For example, though he engages in a high level of climate friendly actions, he does not do so primarily to reduce climate change. Instead, he does it because it makes

him feel good about himself and he feels part of a large social community of environmentally-friendly people.

- **Joel –** One might be surprised by Joel's statement that he does not support the development of a totally clean, environmentally-friendly energy source given his extremely strong pro-environmental values. However, this is more clear based on the in-depth understanding of his environmental values and their basis in strong support for the rights on non-human species. He does not support the production of clean energy, even though this would reduce the impacts of climate change on other species, because he fears that it would lead to more development, which would result in even greater negative impacts on other species.
- **Crystal –** It might be hard to understand why Crystal, who does not exhibit strong environmental values and does not believe climate change is primarily human caused, exhibits such a high level of climate friendly action. But her actions become clear with the understanding of her core value of frugality gained from an in-depth analysis of her interview. As these examples and others noted throughout theses six analyses illustrate, a critical outcome of in-depth idiographic analyses is the ability to see connections between an individual's values, beliefs, experiences, social influences, decision processes, and actions, which makes it easier to understand why an individual acts and believes as they do in relation to energy and climate change.
- **Leo – Leo**'s views about environmental protection are complicated. On the one hand, he is in favor of regulations and other actions that reduce local pollution. He supports local woodstove regulations in Missoula, which significantly improved local air quality and he was in favor of closing a local timber mill, which caused local air pollution. On the other hand, he has no concerns about non-local environmental issues like climate change and does not favor strict regulations to reduce it. The reasons for this apparent contradiction are more clear based on an in-depth analysis of his interview: he is primarily motivated by self interest and his own comfort rather than bioaltruism. His interest in reducing local air pollution is not based on concerns **abou**t the environment, but on personal benefits of improved local air quality. Given that he does not believe climate change will have negative personal impacts (in fact he thinks it will be personally beneficial), he does not favor taking action to reduce it.

- **Tony –** Tony seems to fall into a common character type used in psychometric research: someone with individualist and traditionalist values who supports the free market and opposes government intervention (Kahan, 2011; Leiserowitz et al., 2014). Without the knowledge gained through an in-depth analysis, it would be easy to miss that he actually does have some pro-environmental beliefs and he is conflicted about having negative impacts on the environment. With the knowledge gained through an idiographic analysis, however, it becomes clear that he places high importance of not wasting natural resources and that this is a key motive for his personal energy and transportation actions. In Tony's case, an in-depth analysis reveals he is a much more complicated personality type than he might have appeared to be in survey-based research. Furthermore, this analysis reveals that he could be open to some actions to reduce climate change if they were framed as a way to conserve resources rather than as efforts to reduce individual freedom or increase government intervention in people's lives.

This importance of understanding interconnections between beliefs, values, experiences, and actions emphasizes the value of qualitative data, in-depth idiographic analyses, and maintaining a sample size that allows for this level of analysis on individual interviews. Many of the key themes identified in these analyses provide information and an understanding that it is not possible to gain from survey research alone.

CHAPTER 5: NOMETHETIC ANALYSIS

Chapter introduction

After a detailed idiographic analysis of each interview, it was clear that there were similarities and differences between individuals, and patterns across individuals that could help to answer my research questions about what motivates people's personal energy and transportation actions and –ultimately – how to encourage people to engage in more climate-friendly action. As described in the Methods section, the goal of this cross-interview, or nomethetic analysis, is to address my overall research questions by seeking patterns across individuals (Patterson and Williams, 2002).

As part of my cross interview analysis, I found that it was useful and justified to group individuals based on key elements of their personal energy and transportation motives and their beliefs about climate change. I begin this chapter with a description of how I defined the groups and placed interviewees into them. This overview provides an important base for understanding the remainder of the nomethetic analysis, which uses these groupings to illustrate patterns across interviewees. It also demonstrates the diversity of my full sample across key criteria including demographics, values, climate friendly actions, and beliefs about climate change, an important element of my sampling plan which is described in more detail in the Methods section.

Next, I provide a description of the nomethetic organizing system I developed based on my cross-interview analyses. The nomethetic organizing system, in keeping with my primary research questions, focuses on how patterns across interviewees help to understand the motives behind individuals' personal energy and transportation actions.

Following the key elements of my nomethetic organizing system, in the remainder of the chapter I address the following questions:

- **What motivates individuals' personal energy and transportation actions?** Based on patterns that appeared across all 21 interviews, I explore how four key factors do or do not seem to play a role in motivating individuals personal energy and transportation actions: (1) values, (2) social influences, (3) saving money, and (4) the issue of climate change. In discussing how climate change does or does not influence climate friendly action I also explore if interviewees perceive that climate change is personally relevant and if that matters in how climate change influences their actions. And, I address the

role of "pro-climate change beliefs" such as belief in human causation and higher levels of knowledge about climate change in motivating climate friendly action. While other things do play a role in motivating some interviewees' actions, I focus on these four factors because they appeared frequently in interviewee's motivations and/or played a particularly interesting role in motivating individuals' action.

- **How are individuals' key motives filtered through their actual decision making processes?** I address this question by exploring three key themes: (1) how interviewees end up acting on or compromising their key values and preferred actions as part of their decision making process; (2) how habit influences individuals' decisions about personal energy and transportation actions; and (3) how the type of energy or transportation action influences individuals' decisions.

  Explaining unexpected actions: Finally, I explore how an in-depth understanding of the interconnections between the different elements within individual interviews helps to explain potentially unexpected results in behavior. Specifically, I address (1) how differences in the ways individuals define seemingly similar values helps to explain differences in their actions and (2) how differences in individuals' values and beliefs about climate change help to explain apparent contradictions between what they recommend society as a whole do to address climate change and how they act as individuals.

Patterns and groups across key factors: demographics, personal energy and transportation actions, values, and beliefs about climate change

As part of my cross interview analysis and in the results presented here, I found it useful to group interviewees into broad categories of demographics, values and beliefs, and climate friendly actions. This section explains how I defined the different groups and how I placed individual interviewees into the different categories. It also illustrates the diversity of my sample across key criteria like gender, life stage, values, and level of climate friendly action. This information provides important background for understanding the remainder of my nomothetic analysis, which is based on patterns across the different interviewee groups. Tables 5.1-5.17 illustrate how I have placed interviewees across these categories. In **Appendix 2**, I provide a table that illustrates how these factors play out within each interview for each interviewee.

A note on grouping interviewees into categories

Some of these categories were simple and easily observed such as gender, or residence in a town or in a rural area. Others were less obvious, such as grouping interviewees by overall environmental values, beliefs about consumption, or beliefs about the role of government. I was only able to develop and place individuals into these more subjective categories after gaining an in-depth understanding of each interviewee through a careful idiographic analysis. It may seem contradictory to group interviewees into categories given that a key finding from the idiographic analysis was that individuals often do not fit neatly into categories based on their values, beliefs or actions. Nonetheless, a careful individual analysis of each interview revealed that there are some similarities and differences between interviewees that are useful for indentifying and comparing themes across individuals. For example, it is possible to conclude that some people hold generally pro-environmental values and others hold more anti-environmental values while still recognizing that there are differences in the specific beliefs of individuals within each of these categories (see section on environmental values below for definitions of more pro-environmental and anti-environmental values). These categories are useful for understanding and illustrating the diversity of viewpoints represented in my sample. The categories are also useful for identifying how relationships between demographics, actions, and beliefs both within an individual interview and across interviewees help to understand why people believe and act as they do. For example, within a given interview, it is useful to assess if someone with generally pro-environmental values also engages in a high level of climate friendly actions. Across interviews, it is informative to compare differences in overall values between people who believe climate change is primarily human caused and people who believe it is primarily a natural phenomenon.

In the end, I feel I can best understand how this sample of individuals helps to answer my research questions by grouping and comparing people across general categories while also recognizing the diversity of beliefs both within and between these general categories. Throughout this section, I present tables illustrating how interviewees fall into different categories. However, to help illustrate the importance of interconnections between these different elements within individual interviews, In **Appendix 2**, I also present a table summarizing these categories and key themes within individual interviews for each interviewee.

Demographics

Lifestage, such as college student or parent of young children, was a demographic factor that often proved to be important in individual's decision making process. The largest portion of the sample is married with resident children; nine interviewees, or 43% of the total sample fell into this category. See Table 5.2 for a breakdown of the full sample by lifestage. The sample is nearly evenly split between men (48%) and women (52%), see Table 5.1.

Individuals' jobs also played a role in understanding their energy and transportation behavior and climate change beliefs. For example, people with environment-related jobs often also had strong environmental values, which helped to build an overall picture of how important environmental issues were in their lives. For the college students in my sample, I used their degree program or focus of study instead of their job in this categorization. See Table 5.4 for a breakdown of interviewees by job type.

Residential location also had important implications for energy and transportation actions. For example, people who live in rural areas or outside of the urban core don't have any or as much access to public transportation, walking, or biking. In addition, people's choice of residential location often provides information about if they prioritized being able to use alternative transportation methods or not as part of their location decision process. Twelve individuals, or 57%, of the sample live in the town of Missoula, where they have access to bus service and could be able to walk or bike to some destinations. Six people, or 29%, live on the outskirts of town where bus service is more limited or non-existent and walking and biking is much less convenient. Three individuals, or 14%, live in rural areas outside of town. See Table 5.6 for more detail.

The sample included more people with liberal political views than conservative. See Table 5.3 for a breakdown of the sample by political views.

Table 5.1. Interviewees by Gender

Male **= 48%**	**Female** **=52%**
David	Emily
Joel	Sonya
Paul	Maya
Gary	Indigo
Glen	Andrea
Ben	Rachel

Rich Leo Grant Tony	Jane Amy Liz Lynn Crystal

Table 5.2. Interviewees by Life stage

College student, no kids = 29%	**Adult, no kids =5%**	**Married with resident kids = 43%**	**Empty-nester = 24%**
Joel Paul Liz Ben Grant Jane	Rachel	David (1 grade school) Emily (1 grade school) Glen (2 preschool) Leo (3 grade school) Sonya (3 grade and high school) Andrea (1 preschool) Tony (3 high school and college) Lynn (2 grade and high school) Crystal (3 grade and high school	Maya (grandchildren) Gary Rich (grandchildren) Indigo Amy

Table 5.3. Interviewees by political views

Socialist = 19%	**Progressive =14%**	**Democrat =24%**	**Moderate =10%**	**Independent =10%**	**Conservative =10%**	**Refused to answer =14%**
Maya Emily Sonya David	Glen Gary Indigo	Leo Paul Rachel Andrea Joel	Ben Rich	Liz Crystal	Tony Grant	Jane Lynn Amy

Table 5.4. Interviewees by Profession or college focus for students

Environment related =33%	**Community/social services =14%**	**Education support services =14%**	**Business =24%**	**Building trades =14%**
Maya Emily Glen Indigo Paul	Sonya Rachel Rich	Crystal Amy Lynn	Jane Liz Ben Leo Grant	Gary David Tony

Joel Andrea				

Table 5.6. Interviewees by Residential Location

In town =57%	**Edge of town =29%**	**Rural =14%**
Maya Glen Paul Joel Andrea Rachel Jane Liz Ben Leo Grant Gary	Emily David Sonya Rich Crystal Lynn	Indigo Amy Tony

Personal energy and transportation actions

Just over half of my interviewees, 12 people or 57%, engage in a high level of climate friendly energy and transportation actions (Table 5.7). It is critical to note however, that throughout this paper, I define how climate friendly an individual's actions are based on the results of their actions, not their motives or reasons for those actions. I considered people to have a high level of climate friendly action if they seemed to significantly organize their lifestyle to limit their use of home energy and personal vehicle-based transportation. In most cases, people labeled as "high actors" engaged in both climate friendly home energy and transportation actions. In addition, most high actors expressed climate friendliness in both their purchases (e.g. buying a hybrid car, renovating their home to be more energy efficient) and their behavior (e.g. choosing to ride the bus instead of driving, limiting use of their dryer, or engaging in climate change related political activism). For example, Emily, a high actor owns a Prius, lives in a home designed to be energy efficient and environmentally friendly, and she chose the location of her home to allow her family to use mass transit and bike into town. She also engages in many behavioral actions to reduce her energy consumption such as plugging appliances into power strips so she can turn them all off when not in use, keeping her thermostat low and generally not buying a lot of new things (N1.1).

Four interviewees or 19% engaged in moderately climate friendly energy and transportation actions (Table 5.7). People in this "moderate" category generally engaged in just home energy or personal transportation actions but not both. They did not organize their lifestyle around limiting use of energy or a personal vehicle. They also seemed much more willing to compromise their desire to limit energy use or personal vehicle-based transportation for other motives. Rachel provides a good example of a moderate level of climate-friendly action focused on reducing use of her car. She prefers to walk to work and to social events when weather and her schedule permit. But she is also quite willing to drive if she has a tight schedule or is running late, it is raining, or if she wants to wear nicer but less comfortable shoes that day. Rachel has also done some things to try to weatherize her house to reduce energy loss, but she prefers to keep the thermostat turned up so she is warm rather than reduce it to save energy (N1.14). Five people, or 24% of my interviewees, engaged in a low level of climate friendly energy and transportation actions (Table 5.7). 'Low-level actors' included people who specifically said they did not try to reduce energy or vehicle use. It also includes people who engage in very limited efforts to reduce energy or transportation use such as just trying to remember to switch off the lights when they leave a room or just reducing their home thermostat a little bit when they were not at home. Lynn provides a good example of a low-level actor. She says that she has installed a programmable thermostat to reduce the heat in her home during the day, but she does not do anything else to reduce her home energy use. She also drives everywhere and never uses mass transit, walking or riding a bike for transportation (N1.18).

Table 5.7 illustrates how interviewees were categorized based on level of climate friendly action. **Table N1 in Appendix** 4 provides evidentiary quotes for each interviewee's level of climate friendly action. It is important to note that though 16 people engaged in high or moderate levels of climate friendly behavior, they were not necessarily motivated to do so by a desire to reduce climate change. In the next section I explore the motives for this behavior, and quite frequently, climate change is not a central motivator. However, regardless of why people do them, the behaviors themselves do serve to reduce their personal contribution to climate change and therefore can be considered "climate friendly."

Table 5.7. Interviewees by Personal Energy and Transportation Actions

High (major home, transportation, and behavior) =57%	***Medium (Home, transportation or behavior) =19%***	***Low/none =24%***
Emily	Jane	Leo

David Gary Sonya Indigo Amy Maya Andrea Glen Crystal Paul Joel	Rachel Liz Rich	Tony Lynn Ben Grant

Values

As explained in the description of my idiographic organizing system, individuals' values or core beliefs, especially those regarding the environment, consumption, and the role of government in society, were important for understanding their energy and transportation actions and beliefs about climate change. This section describes how my sample represents different values and beliefs about the environment, consumption, social justice, and role of government.

Environmental values

I categorized people's environmental values based on their beliefs about the overall relationship that humans should have with the environment. I considered interviewees to have strong pro-environmental values if they believed that humans have a responsibility to limit their own influence on the environment and protect the environment; that human interference in nature generally has negative results for the environment; that the ability of the earth to sustain humans is limited or that natural resources will run out; and that the environment should be preserved for non-human species to thrive; AND if these values were an important principle around which they organized their lives. For example, someone with strong pro-environmental values would make major life decisions like living in town instead of in the country and regularly use alternative transportation to reduce their personal environmental impacts. I categorized people as having some pro-environmental beliefs, but not holding strong pro-environmental values if they shared some of the same beliefs about the environment but did not organize their lives in a significant way around those beliefs. I categorized people as having "anti-

environmental" values if they believed that they did not need to limit their impacts on the environment or try to protect it; that humans can tinker with the environment without negative impacts (or even with positive ones); and that nature is primarily for human consumption, regardless of impacts on the overall environment or non-human species. These criteria were loosely based on the criteria used to determine environmental values in a commonly used survey tool, the New Ecological Paradigm (NEP) (Dunlap et al., 2000). I did not specifically ask interviewees about their environmental values. However, most interviewees did provide enough information about their beliefs on these overall criteria about the environment to make an estimate of their environmental values.

Overall, my sample is somewhat skewed towards people with pro-environmental values. I considered ten interviewees to have strongly pro-environmental values that played an important role in their life choices. Table 5.8 illustrates how interviewees were categorized based on environmental values and beliefs. **Table N2 in Appendix 4** provides evidentiary support for how each interviewee was categorized based on environmental values.

Ten of the 21 individuals, or 47%, expressed a belief that human impacts on the environment were generally negative and they had a strong sense of responsibility to limit their impacts on the environment. Indigo provides an example of someone with pro-environmental values. She expresses a belief that human impacts on the environment are negative when she explains that she wishes we could turn back the clock to a time before the industrial revolution and the chemical revolution, which she sees as times that humans really began to have negative impacts on the environment (N2.7). Like many other interviewees, Indigo's sense of responsibility to limit impacts on the environment comes through in many small ways throughout the interview rather than in just one quote or response to just one question. For example, at one point in the interview, Indigo explains how she purchases food to reduce its impact on the environment. She says:

"Our sort of thing we say is we buy food that is the kindest on the earth for whatever it is. Like you're not going to buy local coffee. So you make a decision, it's got to be a fair trade so we're not exploiting people and it's got to be organic or shade grown so that, you know, the environment isn't affected. We do all that stuff. Our sins, we pay a lot of attention to that stuff." (N1.7).

This quote is representative of Indigo's overall sense that she has a responsibility to consciously try to reduce her impact on the environment.

Another nine interviewees (43% of the total sample) expressed a belief that human impacts on the environment were generally negative but it was not a strong motivation for their actions and did not lead them to focus on reducing their environmental impacts. In most interviews, this belief did not come through in a single statement but was clear from the lack of continuity between interviewees' stated belief the protecting the environment was good and their lack of action to live by this belief. For example, Rich says that he believes we should "treat the earth better" but in his own life he does not do that much to reduce his impacts on the environment (N113, N2.13). I considered people like Rich to have some pro-environmental beliefs but not a core value of being pro-environmental.

Two individuals (10% of the total sample) seemed to believe that humans did not have significant negative effects on the environment, which I considered to be an expression of not having pro-environmental values. This belief most often came through in an interviewee's thoughts about the causes of climate change. For example, these two interviewees thought that climate change was primarily part of a natural cycle and that human's ability to dramatically influence a major environmental phenomenon like climate was limited (N6.19 and N6.20).

Six individuals (29%) expressed a strong belief that non-human species have a right to thrive, which I associated with strong pro-environmental values. For example, Sonya started crying during the interview when she said that there might not be polar bears anymore due to climate change, illustrating the strength of her belief that polar bears have the right to exist (N1.4). Three other interviewees (14%) seemed to believe that non-human species were important and/or should have the ability to exist but this was not a strong or core value for them. Three others (14%) believed that humans' needs were more important than other species and that the environment is primarily for human consumption not for the benefit of non-human species, which I considered to be another element of not having pro-environmental values. Grant, for example, expresses this belief when he says: "I think that wildlife and animals are great but at the same time I think humans come above wildlife and animals." (N2.19).

Nine individuals (43%) did not provide enough information about their beliefs about the rights and value of non-human species to place them in a category. The fact that they did not mention their beliefs on this, even in the context of a discussion of climate change, a major environmental issue that will have many negative effects on non-humans species, may suggest that concerns about non-human species are not a core value for them.

Categorizing interviewees based on their environmental beliefs and values was very useful for understanding if and how environmental beliefs influence climate friendly actions. However, like any categorization system, my attempt to categorize interviewees required some simplification of people's actual beliefs. As illustrated by the idiographic analyses in the previous chapter, there is a lot of variety and complexity in people's beliefs about the environment. For example, though I categorize ten interviewees as having strongly pro-environmental values there is still quite a bit of variety in their environmental beliefs and motivations. For example, as described in the idiographic analyses, Maya is primarily concerned about preserving the beauty of nature, Joel is most concerned about the rights of non-human species, and Glen's values focus on his belief that limiting his own environmental impacts is an ethical responsibility. The other seven interviewees with strong pro-environmental values also illustrate that there is variety in pro-environmental beliefs. For example, Paul, like Joel is concerned about preserving biodiversity, but Paul is primarily concerned about the potential loss of ecosystem services and the impacts that will have on humans rather than to preserve the rights of non-human species to thrive (N2.11). I explore this variety in how individuals define seemingly similar values later on in this chapter.

Table 5.8. Interviewees by Environmental Values

Humans can harm environment AND strong sense of responsibility to limit impacts –organizes life around this belief =47%	***Humans can harm environment but does not organize life around this belief =43%***	***Human negative impacts on the environment are limited = 10%***
David Emily Sonya Joel Maya Paul Gary Indigo Andrea Glen	Rachel Jane Crystal Amy Rich Ben Liz Lynn Leo (but doesn't care about impacts unless they are personal)	Grant Tony (but conflicted)

Non human species have right to thrive – organizes life around this belief	***Non human species have right to live – but does not organize like around this belief***	***Humans' needs more important than other species/ nature is for human consumption***	***No mention/can't judge =38%***

=33%	*=14%*	*=14%*	
Joel Sonya David Emily Maya Paul	Gary Indigo Amy	Leo Grant Tony	Rachel Andrea Rich Ben Liz Crystal Jane Lynn Glen

Social justice values

For some individuals, belief in the importance of social justice was a core value that influenced their energy and transportation actions and/or beliefs about climate change. Six interviewees discussed values about social justice, or a desire for equity for poorer and less powerful human populations. Of these six, this value led five individuals to believe that they should change their individual behavior to reduce impacts on poor populations and/or that Americans in general should address climate change to reduce its impacts on poor people. For example, Paul and Emily both said that they are most concerned about climate change and energy issues because of the impacts they have on poor people (N4.1 and N4.11). Sonya explained that while she is not that compassionate to people with more wealth and ability to adapt, she is very concerned about how climate change will impact indigenous people (N4.4):

"I think there will be indigenous populations as there already are that will be obliterated. They will have to come up with different ways of living or go the way of many a species. Ah, the drought, I don't see anyway that anything is going to be the same. Climate change means climate change, wet places could be dry, dry places could be wet. The ocean levels are going to be rising and so ah, I'm not as compassionate to people, besides indigenous people."

Leo, on the other hand, described in the idiographic chapter, believed that society should not act to reduce climate change if that meant putting restrictions on the ability of poorer countries to develop their economies and personal economic opportunities (N1.17). Most interviewees (71%) did not mention social justice related values. Again, this may suggest that the potential impacts of their own energy or transportation choices or of climate change on poorer people is not a central consideration for them. But it is quite difficult to judge this because I did not include any specific questions about social justice in the interview. Table 5.9 illustrates how interviewees

were categorized based on social justice values. **Table N4 in Appendix 4** provides evidentiary support for how interviewees were placed in these categories.

Table 5.9. Interviewees by Social Justice Values

Concern about poor motivates CC reduction = 24%	***Concern about poor motivates freedom from CC regulations =5%***	***No mention =71%***
Emily Paul Sonya Gary Rachel	Leo	Maya Joel Indigo Rich Liz Glen Jane Lynn Grant Tony David Crystal Amy Indigo Andrea

Consumption values

There was a lot of variety in individuals' beliefs about consumption. For example, some people felt that over-consumption was a central problem with American culture. Others believed it was a good idea to reduce consumption on an individual level but did not make any links between consumption and cultural problems. Some interviewees linked their negative views about consumption with the overall system of capitalism, again suggesting that consumption was a cultural problem rather than just an individual value. While others made no such connections. Some interviewees specifically discussed a belief that there was no need for individuals to limit their consumption. And still others did not mention consumption related beliefs at all. Based on this variety of beliefs, it seemed most useful and most fair to interviewees to categorize their beliefs about consumption into the following four categories. Four interviewees (19%) had strong beliefs against consumption and believed that overconsumption and/or capitalism are fundamental flaws in American culture that require a major culture revolution to address. Indigo provides a good example of this idea. She expressed this belief in large part through her own

efforts to create a different culture by founding an eco-village based on the principles of low consumption (N1.7). She also explained that she thinks corporations and the profit motive have ruined the earth and that American culture needs to change its overconsumption to address climate change (N3.7):

"There was money to be made in the war and they were out to make it at any cost. They didn't know the natural cost. They didn't even think about it. It's not like they went, Oh, let's just go rape the earth, they didn't think of it that way. This is money. So the profit motive kind of, I think, my view, ruined the earth. We could have lived on this earth very happily in a, quote, unquote, lower state."…"I was going to say that corporations is the biggest piece. Corporations are running the government. Forget democracy. That's not what's happening. They are driving it. There's TV with all the ads that people want more, you know, so it's like – psychologically everybody's hooked on wanting more, American dream, all this stuff, which means consume, consume, consume, because our economy will fall apart if you don't consume. Bush's statement about it's patriotic to shop. Remember that? I mean, that's like – that's exactly the opposite of what needs to be done."

Three interviewees (14%) expressed a preference for lower consumption and/or less capitalistic culture but did not go so far as to suggest that American culture needed a major revolution to reduce consumption. For example, Sonya said that American culture causes environmental problems because it is too rushed and too wealthy. She admired Latin American cultures because people focus more on time with family than on consuming and traveling (N3.4).

"It's our lifestyles. Were such a rushed society. And it's our rushing that makes us use the car, use the fast food use the disposables. And it's the wealth. We have more impact than a Latin American family in Latin America who all their holidays and vacation time is in the community with their family and friends. And there is something really cool that they don't have to be flying all over the place. As you can see I have a real passion about this."

However, at no point in the interview did she go so far as to suggest that we need a cultural revolution to address overconsumption. I should note that this does not mean these three individuals would not support a cultural revolution but they did not express this in the interview.

Six individuals or 29% expressed a belief that individuals should reduce their consumption and that lower consumption was a personal virtue, but did not suggest that consumption was a larger cultural problem. For example, Emily describes that she tries not to consume too much, but she does not make a larger judgment about consumption and society (N3.1):

"I guess the only thing would be we just don't buy that much stuff. We have a small house so you can't buy that much stuff. We don't really want to put our money into that and, like, I can

count on one hand the times I went to a store with my daughter to buy new clothes. We just bought her some underwear because she didn't have any. But usually that's hand-me-down too. So we all shop at the thrift stores and we – part of that is because it's cheaper but part of that is because it's just – there's just so much stuff out there. [daughter] was joking that she doesn't even know what Old Navy is. We had to orient our lives that way a little bit that stuff is not that important, even though I still like stuff. There's times when I wish I could – like this – so I have to curtail that interest, and my husband has no interest in stuff. It kind of works – he's probably a good temper on that."

Three interviewees (14%) specifically expressed that they did not think individuals need to consume less and were also very supportive of the capitalist, free market system in organizing society. Grant expressed his belief that individuals don't need to consume less in part through his own lack of effort to reduce consumption (N1.19). He also expressed support for a profit based, capitalist system in his support for financial incentives as the best way to make people engage in environmental behaviors like recycling (N3.19).

"I think it is great when the government gives incentives for it. For the most part I think it should be an individual's choice. I mean the government shouldn't have some type of enforcement on what type of vehicles you can drive and what vehicles you can't drive. I think it should be up to the individual. At the same time, when the government puts incentives out there where they are not forcing you to do anything and not making it a law but putting incentives out there so people will do it. I think that is good."

Many interviewees also expressed the belief that not wasting, or consuming efficiently is important. For some interviewees, this belief was closely linked to their beliefs about the need to reduce consumption overall. Other interviewees did not see a need to reduce their personal consumption (or for others to do so) but did believe it was important not to waste. Gary and Indigo connected the importance of not wasting with their beliefs about the need for a less consumption focused society and their efforts to reduce their own personal consumption. For example, Indigo views her efforts to create the kind of society she would like to see in her eco-village with a belief in efficient consumption (N1.7). She describes the founding principles of her eco-village as trying to live efficiently: "everything in cycles" she says, "nature knows no waste." (N1.7). Similarly, Gary refers to his efforts to reduce his own consumption and his efforts to build more efficient communities that require less consumption of energy and fuel as "right sizing." (N3.6). Rich and Tony, on the other hand, did not seem to believe that people need to consume less, but did value consuming efficiently and not wasting. For example, both Rich and Tony explain their decision to reduce their home thermostat as an effort not to waste

energy (N1.13 and N1.20). But they do not link this effort not to waste with a belief that they need to consume less energy than they want to be comfortable.

Four interviewees (24%) did not provide enough information on their views about consumption to make a clear judgment on their beliefs about it. Table 5.10 illustrates how interviewees were categorized based on consumption values. Evidentiary support for why interviewees were placed in each category is provided in **Table N3 in Appendix 4**

Table 5.10. Interviewees by Consumption Values

Need cultural revolution to replace capitalism/ competition-based society =19%	***Would prefer lower consumption or less capitalistic culture =14%***	***Individuals should consume less, but not a cultural problem =29%***	***No need to consume less but also shouldn't waste =14%***	***No need to consume less, no mention of not wasting =5%***	***No mention/can't judge =19%***
Maya Indigo Joel Paul	Sonya Gary Amy	David Emily Glen Andrea Crystal Jane	Tony Rich Grant	Leo	Ben Rachel Liz Lynn

Role of government values

There was also a wide variety in beliefs about the role of government. These beliefs did fall along a very general continuum from preferring a strong role for government to preferring that the government have a very small role in society. However, there was a lot of complexity and nuance within these beliefs, which is discussed in more detail later on in this chapter.

It was possible to group most interviewees into four general categories based on their beliefs about government. Five interviewees or 24% supported a very strong role for government in society including government regulations of individuals' choices and behavior to increase the common good. For example, Sonya, Emily, and Maya described themselves as socialists who would like to see the government play a much stronger role in mandating individual behavior as well as regulating businesses (N5.4; N5.1; N5.9). Andrea also says she would like to see the government do more to guide individual behavior including directly regulating individual choices. For example, she offered Missoula's woodstove regulations, which limit individuals'

use of woodstoves and fireplaces, as an example of the kind of regulations she would support to address climate change (N5.8):

"So they mandated the changing or removal of wood burning stoves and I think that's for the benefit of everyone. I've lived in places where there's water restrictions and you can only water on Mondays and Thursdays. And I think it's for the benefit of everyone. It may not be convenient, it may not be what we want, but I think there are certain measures that need to be taken because some people either are naïve, they're going to do what they want anyway, and they need – again, going back to sticks and carrots, some people need to be told what to do, either because they don't know any better or because they would choose to do otherwise."

Six other interviewees (28%) expressed the belief that government could regulate businesses but either specifically did not want government regulating individual behavior or did not say they would accept regulation on individuals. For example, Crystal explained that government should regulate car companies to require more fuel efficient vehicles but that it can not regulate what individuals drive because it goes against the freedom of America (N5.2):

"And I don't know how you can restrict it. I mean that's all of part of the freedom of America is having that freedom with it. But I think if they were maybe stricter on the car manufacturers then it would all trickle down from them. I don't know how else to do it. You can't force people. That's the hardest thing."

Five interviewees (24%) seemed to prefer that government only intervene in society with market-based tools that encourage but do not require specific behaviors by businesses and individuals like incentives and taxes rather than outright regulation. For example, Rich recognized that business and individuals won't change their behavior to reduce climate change on their own. But he proposed that the government should influence their behavior with incentives rather than recommending direct regulation (N5.13).

"I think politically you need incentives, like I was saying, impact fees, those kinds of things. I'm not as opposed to government; this no new government, no new taxes idiocy. Every substantial economic period we've ever had in this country has been driven by government. People railing against how badly the stimulus plan is for us and we're in debt, well, I got news for you, we've been in debt before and what got us out of was the government taking a hand – humans are what they are. And most of us don't think past the day that I have to get through, the pay period I need – in fact, most of the population I think lives pay period to pay period, and they make decisions based on that fact. I was a banker for 27 years, trust me, people will borrow money that they can't afford, as long as they think they can make that payment. Not saving a dime, running the credit cards up, human nature is an ugly thing if let run rampant as a collective – you can't rely on humans – you cannot rely on our capitalist market to run it because they're naturally driven to the bottom line, what does our profits look? I'm going to hire and fire people based on that whether it's right or wrong. I'm not a communist but I don't think, especially

bigger corporations should have as much power as they have. They're not making the right decisions. They have no incentive to make the right decisions."

Two other interviewees (14%) believed that government should have a very small role in society. Amy preferred not to say much about her political views or views on government. But she did express negative sentiments about government intervening to address climate change suggesting regulations might lead to people not being able to drive at all (N5.3).

"I mean what's gonna happen is gonna happen. And I don't think that there is really anything that, I mean I guess the government could impose more laws about how far we can drive to work in a vehicle that uses gas and that sort of thing but it just doesn't seem all that realistic. I mean what would we do, start riding horses?"

Two interviewees did not provide enough information to judge their beliefs about the role of government in society. Table 5.11 illustrates how all 21 interviewees were categorized based on beliefs about government. **Table N5 in Appendix 4** provides evidentiary support for how interviewees were placed into these categories.

Table 5.11. Interviewees by Beliefs about Role of Government in Society

Very strong role - Government should regulate individual behavior for common good =24%	***Government can regulate businesses but not individuals =28%***	***Government should intervene using market-based tools like incentives =24%***	***Very weak - government should not regulate or intervene =14%***	***Can't judge =10%***
Sonya Emily Maya David Andrea	Paul Joel Rachel Crystal (might be limited) Liz Leo	Glen Rich Ben Gary Grant	Amy Tony Lynn	Jane Indigo

Beliefs about climate change

Interviewees were split about 60-40 between those who believed that climate change is primarily human caused (12 people or 57%) and those who believed it is not primarily human caused (10 people or 43%). Of the ten interviewees who thought climate change was not primarily caused by human activities, six interviewees thought that climate change was primarily natural, and three felt climate change was happening due to a combination of natural and human

causes. Most of these 10 people felt climate change was part of a natural climate cycle and that climate has always been changing across the course of the earth's history. Table 5.12 illustrates how interviewees were categorized based on their beliefs about climate change. **Table N6 in Appendix 4** provides evidentiary support for why interviewees were placed into these categories.

The sample was split almost evenly based on their level of concern about climate change: 52% were very concerned and 48% were not very concerned (See Table 5.13). Interestingly, believing that climate change was caused by humans did not always translate into a high level of concern about it, two interviewees believed that climate change was caused primarily by human activity, but were not highly concerned about its impacts (N6.20 and N6.14).

I did not specifically ask interviewees to estimate their own level of knowledge about climate change nor did I include questions specifically intended to test their knowledge level. Nonetheless, it was possible to get a general sense of individuals' overall level of knowledge about climate change from their discussion of the causes, possible impacts, and ideas about what society should do to address climate change. For example, I considered someone to have a relatively high level of knowledge if they were able to list out the kinds of emissions that cause climate change or the kinds of activities that cause those emissions; they seemed to understand the science underlying climate change; they understood widely discussed potential impacts of climate change; and they had a sense of widely proposed solutions to climate change. People who seemed confused about what kinds of activities or emissions cause climate change, who could not name many specific potential impacts, and who did not seem to be aware of widely proposed solutions to climate change I considered to have a lower level of knowledge. Just over half the sample (11 people or 52%) had a relatively high level of knowledge about climate change; the other half of the sample, (10 people or 48% seemed to have a lower level of knowledge about climate change. See Table 5.14 for more detail.

Table 5.12. Interviewees by Beliefs about Causes of Climate Change

Primarily human =57%	**Primarily natural =29%**	**Mix of human and natural =14%**
Emily	Crystal	Liz
David	Rich	Lynn
Gary	Leo	Indigo
Sonya	Tony	
Maya	Amy	
Andrea	Grant	

Glen Paul Joel Jane Rachel Ben		

Table 5.13. Interviewees by Level of Concern about Climate Change

Higher **=52%**	**Lower** **=48%**
Emily David Gary Sonya Indigo Maya Andrea Glen Paul Joel Jane	Rich Liz Lynn Grant Crystal Amy Leo Tony Rachel Ben

Table 5.14. Interviewees by Knowledge of Climate Change

Higher (example: realizes causes are carbon emissions, expresses knowledge of underlying science, and/or knows wide range of likely impacts) **=52%**	**Lower** (example: less clear on causes of climate change does not seem to know wide range of likely impacts) **=48%**
Emily David Joel Paul Sonya Gary Indigo Maya Andrea Glen Ben	Jane Tony Leo Rich Grant Crystal Rachel Liz Lynn Amy

<u>Beliefs about what society should do to address climate change</u>

I asked individuals what they believe society should do to address climate change to gain insight into their overall values, their level of concern about climate change, and their own energy and transportation decision making process. This question also, obviously, provides evidence of the kinds of government policy or other societal action to reduce climate change interviewees would support. The specifics of each interviewee's response to this question are provided in Table 5.17. I also address this issue in detail in the six idiographic analyses and in the section on 'Explaining Unexpected Beliefs and Actions' below. I found that individual's beliefs about what society should do to address climate change fell into two types: level of change required and who should lead the change. First, interviewees had very different opinions about the level of change required, which ranged from complete cultural revolution to very limited behavioral changes by individuals or even no change at all. Similarly, some people thought that major lifestyle change would be required while others felt that advances in technology and innovation will solve climate change without requiring individuals to dramatically change their behavior. Second, interviewees had very different beliefs about who should take the leading role in addressing climate change: government, businesses, or individuals.

In terms of the level of change required, four interviewees (19%) believed that major culture change will be required to address climate change; seven people (33%) believed that lifestyle change will be required but did not mention the need for overall cultural revolution; six people (29%) believed that small individual behavior changes will be enough to solve the problem; and four interviewees (19%) believed that we don't need to do much if anything to address climate change. Four people (19%) believed that technology will provide the majority of solutions to climate change and the need for individual behavior change will be limited or not at all. Interestingly, three of the four people who believed technology will provide solutions also believed that little needs to be done at all to address climate change. Thirteen people (62%) seemed to believe that technological change alone will not be enough and behavioral change will also be required to solve climate change. Four people (19%) did not provide enough information about this topic to be able to judge if they think technology or behavior change will provide more of the solution to climate change. However, two of those four also believe that society does not need to do much if at all to address climate change. Table 5.15 and 5.16 illustrates how interviewees fall into these categories about level of change required.

In terms of who should lead the effort to address climate change, nine people (43%) thought government should lead the effort; four people (19%) thought the business community should take the lead; and eight people (38%) suggested that individuals should lead the effort to reduce climate change. Table 5.17 illustrates how interviewees fall into these categories about who should lead efforts to address climate change.

It is important to note that there was quite a bit of variety in specific beliefs within each of these three categories. For example, Sonya, Emily, and Maya were all self described socialists who believed that government should take a strong role in regulating individual behavior as well as business actions (N5.4; N5.1; N5.9). Crystal, on the other hand, believed that government would have to get involve in reducing climate change because the scale of the problem was too big for individuals to solve effectively. She also believed that individuals are too lazy to make the necessary changes without some encouragement. However, she was hesitant to outright recommend government regulations even on businesses (N5.2). So while she also believed government has to play a leading role in addressing climate change, she supported a much more limited role for government than Sonya, Maya, or Emily. Indigo and Liz both believed that individuals should lead the effort to reduce climate change. However, the level of individual action they recommended was dramatically different. Liz suggested that everyone should do "the little things" they could to reduce climate change, suggesting that very little behavior or lifestyle change would be required (N6.15). Indigo, on the other hand, supported major lifestyle changes by individuals' as reflected by her own choice to live in an alternative eco-community (N1.7). I address this diversity in beliefs about the solutions to climate change in more detail in the section on 'Explaining Unexpected Actions and Beliefs.'

Table 5.15. Interviewees by Beliefs about Level of Change Needed to Address Climate Change

Culture change =19%	**Lifestyle changes =33%**	**Small individual actions =29%**	**Probably Nothing =19%**
Maya Joel Paul Indigo	Gary Sonya Rich David Emily Glen Jane	Andrea Crystal Amy Ben Liz Rachel	Leo Tony Lynn Grant

Table 5.16. Interviewees by Beliefs about Need for Technological vs. Behavioral Change

Technology will provide majority solution =19%	**Behavioral change required for majority of solution =62%**	**No mention/can't judge =19%**
Leo	Rich	Glen
Tony	Liz	Paul
Grant	Jane	Lynn
Ben	Gary	Amy
	Sonya	
	Emily	
	David	
	Joel	
	Rachel	
	Crystal	
	Indigo	
	Maya	
	Andrea	

Table 5.17. Interviewees by Beliefs about Who Should Lead Efforts to Address Climate Change?

Government =43%	**Businesses =19%**	**Individuals =38%**
David	Glen	Jane
Emily	Liz	Lynn
Maya	Leo	Grant
Crystal	Paul	Tony
Rich		Joel
Ben		Rachel
Sonya		Amy
Gary		Indigo
Andrea		

Putting the pieces together: nomothetic organizing system

I developed an organizing system as part of my cross interview, or nomothetic, analysis to help organize my thinking during the analysis and to help present the results. I based the organizing system on the key patterns that emerged across interviewees to explain their motives for personal energy and transportation actions. One of the most important themes that came out

of my analysis was that interviewees had one set of motives that formed the background for their preferred approach to personal energy and transportation actions (these are illustrated in the light gray box on the left side of the illustration below). However, these background motives merged with other considerations and factors in their actual decision making process (illustrated by the middle gray box in the diagram below). So that individuals' actual personal energy and transportation actions were the result of a two part process, they had underlying motives for their preferred approach to these actions on the one hand, and a they also had a day-to-day decision making process that brought in other factors, and sometimes resulted in the negation of their preferred approach to personal energy and transportation actions.

In addition to this similarity in the structure of individuals' decision processes, I also found similarities in the main factors that influenced both steps in this decision process. Five main factors recurred in many interviewees' motives for their preferred approach to energy and transportation action: values, social influences, saving money, beliefs about climate change, and individual comfort factors such as convenience. How they influenced individuals behavior preferences, and the preferred behavior choices they resulted in were different across interviewees, but these five themes recurred regularly. In the analysis presented in the remainder of this chapter, I focus on the first four of these factors because they were more important factors and/or played a particularly interesting role in motivating individuals' action.

I also found similarities in the factors that influenced interviewees' actual, in the moment, decision making process. These included similarities in how underlying values and social factors were mediated by other factors, habits, the type of decision being made, and situational factors like weather, the distance to be traveled, etc. In the following analysis, I focus on the first three of these factors, because they played both an important and interesting role in explaining individuals' final behavior choices.

Finally, I found two areas where the detailed understandings I gained from the open interview format and in-depth analysis of individual interviews helped me to understand potentially unexpected results in individuals' actions. These are illustrated by the white boxes in the diagram below. First, I found that there was quite a bit of variety in how individuals defined seemingly similar values (like pro-environmental values), which resulted in surprising –but ultimately understandable – differences in the personal energy and transportation actions they chose. Second, I found that there were significant differences between individuals' approaches to

their own climate friendly actions and their recommendations for what society in general should do to address climate change. I found that understanding individuals' values and beliefs about climate change helped to explain these potentially unexpected contradictions.

In the remainder of this chapter I discuss the three key themes I identified in this nomethetic organizing system:

- What motivates individuals' preferred approach to personal energy and transportation actions.
- How different factors interact in their actual decision making process.
- How an in-depth understanding of individuals' own understanding of key values and their beliefs about climate change help to explain potentially unexpected personal energy and transportation actions and potentially unexpected contradictions between their personal actions and their recommendations for society as a whole.

Understanding Climate Friendly Personal Energy and Transportation Actions

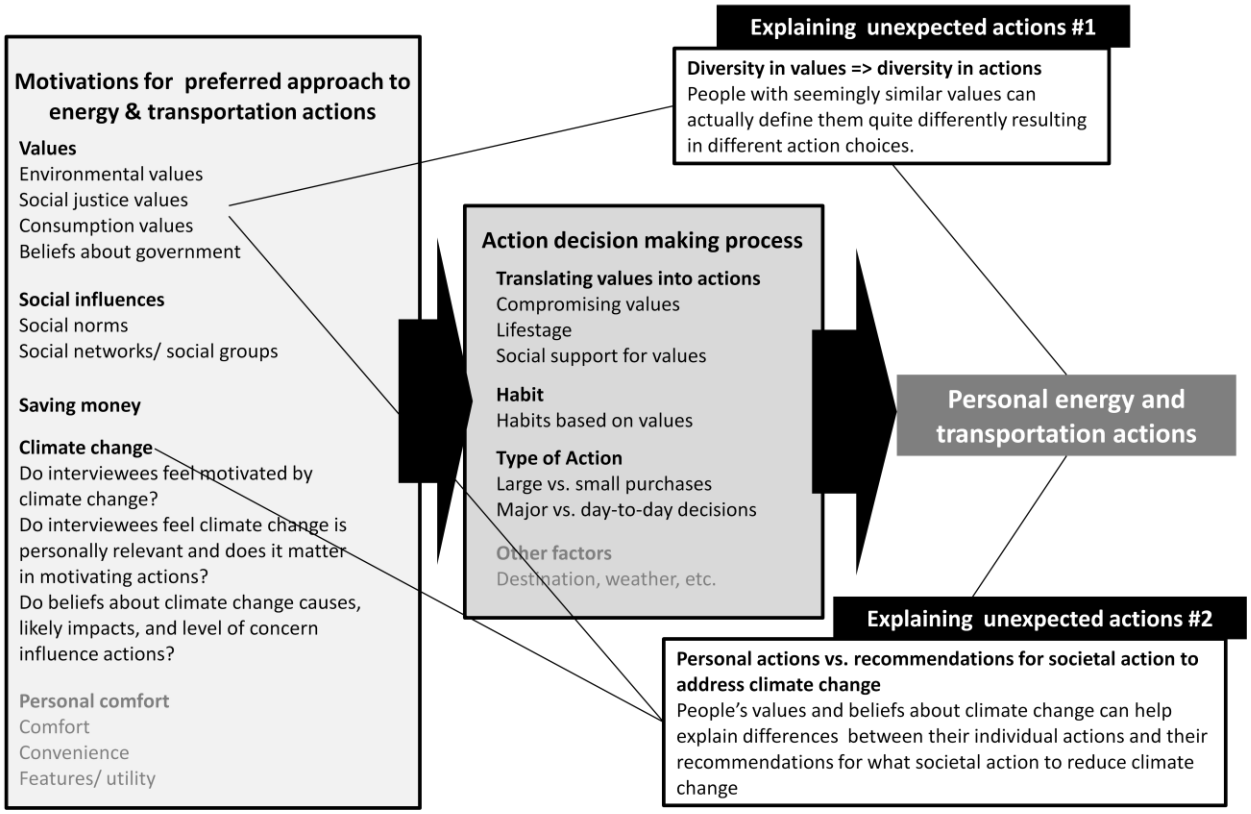

Figure 5.1 *Nomethetic organizing system*

What motivates individuals personal energy and transportation actions?

My primary motivation for this research was to understand why people engage (or not) in climate friendly behavior in their personal lives. Critical to my research design, I was interested in what motivates individual actions that reduce climate change (primarily personal energy use and transportation choices) regardless of if climate change was part of an individual's reasons for those actions. I also hoped to understand people who do not engage in climate friendly actions to understand why they do not. In this section, I explore the role of four key factors in motivating individuals' behavior personal energy and transportation actions: (1) values, (2) social influences, (3) saving money, and (4) the issue of climate change. While other things do play a role in motivating some interviewees' actions, I focus on these four factors because they appeared frequently in interviewee's motives and/or played a particularly interesting role in motivating individuals' action.

Values

Environmental values

Not surprisingly, there was a strong link between having pro-environmental values and engaging in a climate friendly actions. In fact, pro-environmental values were the most consistent motive for individuals who engaged in a high level of climate friendly actions. Of the 12 "high actors" in this study, seven or 58% are primarily motivated by pro-environmental values (David, Sonya, Andrea, Joel, Gary, Emily, Indigo) Three more high actors held strong pro-environmental values, though these values were a secondary motive for engaging in climate friendly action (Maya, Paul, Glen). Therefore, 10 of 12 or 83% of people who engaged in a high level of climate friendly behaviors were primarily or secondarily motivated to do so by strong pro-environmental values. Sonya provides a good example of someone who is primarily motivated by environmental values. For example, she repeatedly explains that her climate friendly actions are motivated by the environment, not a desire to save money:

"And then the Prius, [we bought it] for the gas mileage and fuel consumption. And I know a lot of people are buying it for the price of gas, we were doing it for the environment in general, I

mean petroleum extraction, global warming, yeah. I mean trying to take as little from the planet. Fuel costs was not the reason we thought about that. The Prius is an expensive car but uh we thought it was worth it."

All of the people who engaged in a moderate level of climate friendly action (4 of 4 or 100%) had some pro-environmental beliefs including a belief that environmental protection was a positive thing (Rachel, Rich, Liz, Jane). Though none of these moderate-level actors were primarily motivated to engage in climate friendly actions by a desire to protect the environment, they all recognized and were pleased by this side benefit of their actions. For example, Liz explains her rationale for trying not to waste energy in her home in the following quote as primarily being about saving money, but secondarily she likes being environmentally friendly:

"There's a lot of – I feel like I have a lot of stress saying this is just kind of like money going out the door and I don't like it. I mean, I like to think of myself as environmentally friendly too but at this point I'm just looking at it as money and I don't like when our energy bill comes and it's way higher than I think it should be."

The reverse was also true: people who exhibited a low level of climate friendly behaviors did not have strong pro-environmental values. Of five low-level actors, two (Leo and Grant) had anti-environmental values, one had moderately anti-environmental values (Tony), and two had generally pro-environmental beliefs but these were not important driving values for them (Ben and Lynn). So, over half of the low actors had some anti-environmental beliefs and the others did not have strong pro-environmental values. This quote from Grant illustrates his anti-environmental values and that they do not motivate him to want to reduce the use of fossil-fuel based energy:

"I guess on that subject I'd be a lot more leaning towards the conservative side because I think that wildlife and animals are great but at the same time I think humans come above wildlife and animals. I think there are certain areas that need to be drilled but I think obviously you need to leave national parks and that type of thing out of it. But I mean if there are natural resources to be tapped, you might as well use those in the United States that we have vs. just I mean allow some animals to have their habitat, but if they can be moved, they can migrate, I think overall that should take priority to become more independent of other countries' oil sources and energy resources when we have the ability to tap into our own in America."

Beliefs about the environment, whether they be strong pro-environmental values, or anti-environmental values were the most consistent explanation for individuals climate friendly (or unfriendly) behaviors. However, I also found there was a lot of variation in environmental beliefs. People who hold generally pro-environmental values did not necessarily view the

environment in the same way nor prioritize the same things about environmental protection. Similarly, people who had some beliefs that seem "anti-environmental"-- such as believing that humans could not cause climate change -- sometimes also held more pro-environmental views, such as the belief that we should not waste natural resources. As will be discussed in more detail below, this variety in environmental beliefs can lead to unexpected differences in what actions people take and what they think we should do about climate change.

Social justice values

Beliefs about the need for equity for poorer and less powerful human populations was another strong motivator for climate friendly actions. Four high-level actors expressed these social justice values and they were a primary motivator for three high actors (Emily, Paul, and Sonya). Social justice values were a secondary motivator for one person who engaged in moderate levels of climate friendly action (Rachel). For the individuals with high or moderate levels of climate friendly action, beliefs about social justice motivated them to reduce their environmental impact or overall consumption to limit negative repercussions of climate change and western consumption on poor and less powerful human populations. For example, in describing why he is involved in the climate change movement, Paul explains:

"I mean, our energy system is heavily weighted against low income individuals. It's no secret that every refinery that's ever been built has been built in a poor, black, or I guess we should just say nonwhite neighborhood, especially in MT where it tends to be built around areas that are housing indigenous people. No surprise that we are mining uranium on reservations and poor, and more importantly putting reservations where uranium mines are. Um. Because it's land that we don't want, and I think that, kind of understanding the system that you're buying in to by purchasing energy and the impact that has on people. It's hard to forget, it's hard to ignore. I wouldn't say that I try to be too, to push that too much, but I think it's very important to me. And it may be the one thing that I don't talk a lot about but it's the thing that I do care a lot about."

Interestingly, very similar social justice values led the one "low actor" in this group (Leo) to believe society should not engage in actions to reduce climate change that would limit the ability of people in developing countries to reach their full personal economic potential. It should be noted that this interviewee also had anti-environmental values and believed in a limited role for government in society, both of which may also support his view that society should not address climate change by limiting individuals' behavior choices or opportunities.

Consumption values

Individuals' values and beliefs about consumption and its role in American society were another important motivator of personal energy and transportation behavior. The belief that American culture is too consumption focused or the value of lowering personal consumption was a primary motivator for four of 12 high actors (Crystal, Maya, Indigo, and Gary) and at least a secondary motive for six other high actors (Joel, Emily, David, Sonya, Glen, and Andrea). For example, Crystal's efforts to reduce use of home energy and vehicle fuel were primarily motivated by a strong value of frugal living and careful allocation of financial resources (N1.2). Glen, Emily, David, and Andrea were also at least partially motivated to engage in climate friendly actions by a belief that lowering consumption was an important personal virtue.

Gary, Maya, and Indigo were primarily motivated to engage in climate friendly actions by consumption-related values. All three linked their beliefs about overconsumption with beliefs about community. Gary and Maya shared a belief that American culture and community design is dominated by the car, which Maya called "car culture" and Gary called "carchiteture." They both believed that America's car-focused approach to community design and overall lifestyle is a central reason Americans consume too much. Maya linked her beliefs about consumption with a belief in the need for more socially connected communities, which she felt would be achieved by requiring denser development with more mass transit options and more walkable designs. Maya believed that people consume too much to fill a void caused by lack of social connection. This belief about community and consumption was her central motivation for engaging in climate friendly actions (N3.9). Gary was motivated by a similar belief in the need for lowered consumption through better planned communities, though his focus was less on social connection and more on the belief that transportation, buildings, and community design are key infrastructural enablers (or limiters) of people's ability to live a lower consumption and lower environmental impact lifestyle. Gary's climate friendly actions were largely motivated by a desire to fight against car dominated culture and "right size" his own environmental footprint and lifestyle (N3.6). For example, Gary explains his approach to purchasing vehicles by saying:

"I don't like buying stuff. I don't like buying rigs particularly. But over time, transportation and buildings are the two things that I do, and whether I like it or not, and they are enormously intertwined. So I don't think I can build fuel efficient buildings without considering how we transport ourselves around, so my own personal choices have been to always be with smaller more fuel efficient vehicles."

Gary's explanation of how he chose his home location also illustrates this theme of consuming less, right sizing, and building more connected communities:

"I'm trying to live in the city, you know, kind of a walkable neighborhood, not out in the middle of nowhere where I have to commute every day. And I fixed up an existing house instead of built a new one, using the body – the materials behind you – behind me, those are salvage, from an old barn (inaudible) constructed, so I mean, I tried not to even use new wood for anything in this house just because there's so many great things that are thrown away or underutilized. It took me more time to do it but it was okay. I had some time. If people built their own shelters, they would save the money from hiring experienced trades people and they wouldn't have to work as much because they wouldn't need the money to pay for expensive guys, they could build their own shelter. It's a choice."

Indigo was also primarily motivated by a combined value about consumption and community. Like Maya, she believed that people consume too much because they lack social connection. She added to this the belief that people are also unhappy due to a lack of connection to nature. Her solution to this consumption-unhappiness-lack of connection problem is to build eco-communities using the principles of permaculture, which are modeled on the efficiency of natural systems and increase social connection through consensus based decision making and communal living. Indigo's climate friendly actions were largely related to living her vision of lower consumption and better communities in an eco-village she founded (N3.7).

Four other interviewees with a high level of climate friendly actions (Joel, David, Emily, and Sonya) also expressed a belief that American culture was too focused on consumption and were at least partly motivated to reduce their personal energy and transportation impacts by a desire to fight against this overconsumption. For example, David describes his decision to build an energy efficient home as partly based on a desire to be less wasteful:

"Well I think because we had been in east Africa for a few years, and when we came back to the States things just seemed so wasteful to us, in terms of what's thrown away. Um, we had a little bit of savings, not as much as we probably should have, but this was early to mid nineties and it seemed like the real estate market al.l across the west was on this steady climb and people like us felt like pressure almost if we should buy something now or we won't every be able to afford to. Plus kind of having sort of a nesting instinct, we had been traveling all over the world and basically an itinerant life style for ten years or more and we were ready to settle down and we had the assumption that you would always do things in the most environmentally friendly way. So we came back to the US and we were looking at the sort of recycled dirt-bag technologies for building a house and the two that we came across that seemed like they might work for us were strawbale building and the kind of earthship homes."

The consumption related value of not wasting was also an important motive for climate friendly actions for multiple interviewees. Among high actors, Gary and Indigo were strongly motivated to engage in climate friendly actions by a belief in not wasting and consuming efficiently. In their cases, not wasting also meant reducing their own consumption. For example, Gary mentions multiple times how appalled he is by the amount of waste he sees in American society. His focus on downsizing and right sizing is largely intended to reduce this waste. For example, about American's water consumption he says:

"But then the way we consume water and then poop it out is just appalling. This is pure potable water and we need 3 ½ gallons of water to flush it and then spend millions to clean it up to – I mean, it's crazy how we use it. Then the infrastructure necessary to get it to us clean and then to dispose of it dirty, Oh my God, where is the money going to come from? So we really need to rethink that. Cities need to produce or capture their own water. Cities need to recycle and reuse their own water in efficient ways, and there are cities around the world that are doing this, regions that are doing this."

Indigo discusses consuming efficiently and not wasting as if they are religious principles for her. For example she describes her focus on efficiency in almost religious terms when she says:

"I think it has to do with energy consumption, not just fuel, but our personal energy consumption, and it starts from there and then knowing that we're a microcosm of the earth energy, you know what I mean, all those things come in all the systems and universe energy and all those sort of things. But it just – I don't know, it just makes sense to be as efficient as possible. Why go up and down stairs twice when you can carry twice the load – it just makes sense I think. And then for me more and more understanding that energy is physical but it's also – there's other sources of energy that's not physical, like physically – if I mediate and do all that kind of stuff a lot, then I use less energy because my body gets more efficient. And so it just keeps going. And then there's so much energy in the air that we breathe and just understanding all of that and working on it from that angle just makes sense to me. I don't' know if it makes sense to anybody else."

Consumption related beliefs were also an important motivator for Rich, Grant, and Tony's climate friendly actions. Specifically, these three were motivated by a belief that it is important not to waste. While they did believe that it was necessary specifically to reduce their consumption, they did make small efforts not to waste energy based on this value of not wasting. For example, Grant says the following about his approach to home energy use:

"I mean I try to turn off the lights and just not uselessly waste energy I guess. But at the same time it is just not as much of a priority because I don't have to pay for it individually."
Similarly, Rich explains his approach to energy consumption by saying:

"So we try to keep our energy consumption down. Partially, we don't want to spend the money, but also we try not to waste."

Overall, consumption values -- specifically a value for reducing personal consumption and/or a rejection of overconsumption in American culture -- was a primary or secondary motive for climate friendly actions for ten of the 12, or 83%, of the "high actors" in my study. And the value of not wasting motivated at least some climate friendly action for two high actors and three moderate and low actors.

Saving money

People often suggest the opportunity to save money is a strong potential motivator for people to reduce their use of energy and fuel. Based on an economic approach to human behavior, which suggests that people seek to lower costs and maximize benefits, this should be largely true. However, in my study, saving money was not a primary motivator for nine out of ten of the individuals who engaged in high levels of climate friendly action. In fact, some high-level actors specifically pointed out that saving money was not the reason they engaged in environmentally friendly behaviors. For example, Sonya repeated several times that she bought a hybrid vehicle and built an energy efficient home for the environment, not to save money (N1.4). The one high actor for whom saving money was a primary motivator, Crystal, had a core value of frugality, which incorporated saving money, but was also linked to beliefs about the consumption and proper allocation of financial resources (N1.2).

While saving money was not a central reason that most high-level actors engaged in climate friendly behavior, it was noted as a side benefit by six of the ten high-level actors (David, Emily, Glen, Andrea, Joel, Gary). These six individuals were primarily motivated to start living and maintain an environmentally friendly lifestyle by their strong environmental values. However, saving money was one of their secondary motives for continuing to engage in climate friendly behaviors. For example, Glen, after a long description of how he is motivated to reduce his environmental footprint by participating in a community of like-minded people and a desire to instill environmental values in his children, adds:

"And I'd be lying if I said monetary savings wasn't a motivator, because it is at this point. And never, ever thought I would call my friend to get like tax advice or insurance advice or like retirement, 401K, and all these things, and I sound like such a yuppie, for a lot of people no matter what you are, those things enter into your life at some point. They're in mine now and,

you know, saving money is a big deal, and it all goes back to building a good future for your family, which is an important thing, and I don't feel bad about that."

On the other hand, saving money was a primary motivator for the climate friendly actions of all four moderate-level actors. And, for all of the low-level actors, the few climate friendly things they did were largely motivated by saving money. For example, Ben, a low actor, explains his decision to purchase a Mustang instead of a pickup for its better fuel efficiency by saying:
"I don't like filling up – I don't like going to the gas station, that's one of my least favorite things to do, because it seems like I'm just throwing money away when I do it."

Overall, saving money was not an important motivator for most high actors, though most appreciated it as a side benefit. On the other hand, saving money was a primary motivator for people with lower levels of climate friendly action. These results suggest that saving money may motivate small efforts at climate friendly action, but it is probably not enough to motivate a whole lifestyle focused around conservation actions, unless –as for Crystal -- saving money is a core value.

Social influences

Social influences played a role in motivating the personal energy use and transportation decisions of many individuals in my study. For the most part, social factors influenced people to engage in climate friendly or generally environmentally friendly behaviors. However, some individuals also noted social pressure against behaving in more climate-friendly ways. In addition to the more traditional social psychological concept of social norms, or social pressure to behave in a certain way, I also found that social movements and social networks played an important role in the personal energy use and transportation choices of many interviewees.

Seven individuals specifically mentioned social pressure, or social norms, as a reason that they engaged in climate friendly actions (Liz, Glen, Jane, Lynn, Joel, Rachel, and Andrea). For example, Liz, Jane, Lynn, and Andrea noted that they felt a growing social consciousness around being energy efficient and/or caring about climate change and this played a role in their own efforts to engage in climate friendly behavior. Liz summarized this sentiment well in her description of what she and others should be doing about climate change:

"…there's the green movement or everybody is becoming more sustainable and really honing in on that and saying, well, as – everybody should be doing their part."

Even individuals who did not specifically mention the impact of social norms on their own behavior were likely influenced by them. For example, several individuals with high levels of climate friendly action including Emily, Sonya, and David, noted that most of their friends had similar environmental beliefs and engaged in similar environmentally friendly behaviors. Though they did not specifically say that they felt pressure from their friends to continue their environmentally friendly actions, it seems likely that they may feel some social pressure to do so and/or they may be motivated by gaining social support for their efforts.

Social norms can also pressure people to be less environmentally friendly. For example, both Joel and Glen noted that they feel pressure from friends and family to be less focused on environmentally friendly behavior. For example, Glen noted that his family pressured him not to bike with his children –one of the actions he takes to reduce his family's environmental footprint -- in because they believe it is unsafe and they think he worries too much about the environmental impact of his actions:

"With my other family, you know, it's a little bit different in that they don't necessarily share those same ethics, and it's not like it's 180 degrees against but they think some of the things we do are a little bit crazy. And so, you know, I'll get grief from my mom or whatever for like biking with the boys in the bike trailer, she sees it sometimes as unsafe. And you could view it that way. I can see that. So we have discussions about like why I choose to do that and what I do to take safety precautions and you can also have accidents in the vehicle, you know, blah, blah, blah. So those interactions are a little bit different in that for my other family who lives away, you know, they see us as sort of like being these kind of eco Nazis, taking risks that we don't need to, and maybe over thinking things a little bit and kind of being stressed out about it."

Similarly, Joel explained that he felt pressured to drive and fly even though he knew they are not good for the environment because his friends and family expected him to.

Though social norms in favor of environmentally friendly behavior did seem to play a role in motivating many individuals' actions to reduce their environmental impacts, social norms alone were not a primary motivation for these actions for anyone. Of the seven individuals who mentioned feeling social pressure to engage in climate-friendly behavior, three who exhibit high levels of climate friendly actions (Andrea, Glen, and Joel) were primarily motivated to reduce their environmental impacts by pro-environmental values (N7.8 and N1.8, N7.10 and N1.10, N7.12 and N1.12). The other four, including three moderate-level actors and one low-level actor, were primarily motivated to reduce their use of energy and gasoline by a desire to save money (N1.15 and N7.15, N1.16 and N7.16, N1.18 and N7.18, N1.14 and N7.14). This suggests that

social pressure to be environmentally friendly may encourage or further support environmentally friendly actions in people who are already motivated to engage in these actions for some other reason. But, social pressure alone may not be enough to initiate environmentally friendly behavioral changes.

Though social norms alone were not primary motivators of climate friendly behavior, I found that other kinds of social factors were. Specifically, I found that membership in a social network or social movement focused on climate change reduction or more generally on pro-environmental action was a primary behavioral motivator for several interviewees. Glen, Joel, and Paul were all strongly motivated to initiate and maintain their climate friendly actions due to their membership in a "green" social network or movement. Glen explained that he initially got started with actions to reduce his environmental footprint because of the social group he spent time with and he was largely motivated to continue and expand his environmentally-friendly actions because he felt supported and encouraged by his friends and social community.

"When I was in high school, I was an exchange student to Australia, and they had a much more advanced, I feel like, kind of green conscious, if you will, and I was exposed to that, and that was something I held on to and then just kind of further explored it, and it just grew as I got back and then kind of – there was a little dip in college just because I was partying hard, to be honest with you -- I went to just a giant state school and so, you know, it is what it is. And then when I moved to California, again, there's a very elevated, at least from where I moved from, kind of green conscious. And that's the sector I was working into and so I was surrounded by it personally and professionally. And because I already was a – I had open arms to it, it felt like I fit it, and so that's where a lot of that sort of green ethic and energy efficiency stuff progressed rapidly there. And then Missoula has that same vibe – not same – similar. Again, we moved here, I mentioned, because of – we thought it was a progressive community and we were seeking that out and so, again, I feel like a lot of the nonprofits and services and things that you hear about that make Missoula amazing and unique all somehow you can relate back to energy efficiency and energy savings. So it just keeps getting perpetuated by all of that, by this community."

He also learned about ways to reduce his environmental footprint primarily from friends. Joel was largely motivated to engage in climate friendly actions by his membership in what he called a social movement about reducing climate change. When asked what keeps him going with his 'green' lifestyle, he talked about the inspiration of seeing others advance the social movement through protests and other activism. He also noted that receiving emails and other communications through his membership in established climate change reduction organizations helped him stay motivated (N7.12). Paul, another college undergraduate who is active in climate

change organizations, also said he was largely motivated to engage in climate friendly actions due to his membership in the climate change "social movement." When asked how he got started with environmentally friendly personal transportation and energy use he says that his membership in his university's climate change action organization was the primary impetus. In response to the question "how did you get started with these energy efficient actions?" he says:

"Being involved on campus was probably one of the big ones. I did some environmental stuff in high school, towards the end of my high school career. But being a member of UM CAN has been huge. Working on a lot of different projects and over the years I've moved up in the ranks, attended conferences that involved dealing with the environment, environmental issues, and kind of connecting with people from around the state and around the country who are working on similar projects."

He also notes that connecting with other people around the country who are working on similar things through his role in climate change activism has played an important role in keeping him motivated (N7.11).

Other interviewees also note the importance of building a social movement about climate change as a way to encourage climate friendly action. For example, in addition to motivating his own action, Joel felt that building a social movement around climate change similar to the civil rights movement is one of the most important things society can do to address climate change (N7.11). Rachel also focused on the need to build a social movement around climate change action in her priorities for how to address climate change. For example, when asked what we should be doing about climate change she said:

"You gotta get that social movement. Look at the tote bags. I mean, like we are going to have an island of tote bags. But, at least people are using the totes. It seems like we live in a bubble here in Missoula so it is hard to stay socially – I don't know if you find this as well – but socially like what people are doing around the United States or what they know? It is like "we are so much more educated here" and so then it's like how do people not know that when you read a story about someone in Louisiana or something."

Similarly, Jane suggests that the most important thing people can do to reduce climate change is to spread information about it among friends. She specifically thought that using "word of mouth" to "create believers" about climate change among one's friends would be more effective than media campaigns or other communication approaches that came from sources outside of one's social network. When asked what society should be doing to address climate change she says:

"Yeah, um, I just think that the number one word of mouth, because, that is, I mean, the society that we live in is really based on, we really take value in what our friends and family think and say versus what we might see in the media or something. So, just maybe making effort, even if you're just one person, and just standing up for what you believe in. You know, and whatever knowledge you do have—sharing that knowledge. I think that just that a small amount of us can spread and maybe create believers, maybe inform somebody of something that they didn't know and plant that seed for them to want to discover themselves more about these issues."

Interestingly, both Jane and Joel's beliefs about the power of social networks and social movements to encourage behavior change around climate change have a religious undertone. Joel calls his university's climate change action organization "a cult" (N7.11). And Jane proposes that people need to proselytize through their social networks as a primary way to encourage action to reduce climate change (N7.16). Liz also focuses on the need for a climate change social movement in her recommendations for societal action to address climate change when she said:

"I think just – I mean, I think what's happening now, like there's the green movement or everybody is becoming more sustainable and really honing in on that and saying, well, as – everybody should be doing their part, you know, and really giving everybody their own – having people take their own responsibility for what they're putting into the earth and how they're contributing or not contributing. For me, I think that's a really big thing is just saying, here's these little things that you can do as a person, you know, like unplugging your cell phone charger, your computer, whatever, you know, here's these little things that you can control and just giving everybody those ideas that they can – I think sometimes for me it's overwhelming, like I'm only one person, how much can I do. So I think the more you spread, okay, well this one person can do this and then hopefully we can see some sort of results or whatever from that."

Furthermore, Liz's explanation of the need for a social movement reveals a central reason why working through social movements or social networks can encourage climate friendly action: they expand the perceived impact of individual action. Liz noted that she feels like her own individual actions do not matter that much in the face of a global issue like climate change, but being part of an overall movement around climate change helped her and others to see the larger results of their actions. The motivational force of membership in a social movement or social network may also work in tandem with social norms. For example, it may be easier to act on one's environmental values when those values and actions are supported by social networks (Kahan, 2012).

Though the motivational force of "green" social movements or social networks appears as a key theme in only 6 of my 21 interviews (29% of the sample), I think it is one of the more

interesting and exciting motives for climate friendly action. First, this has not been explored widely in previous literature about climate friendly action. In addition, this theme occurs in the interviews of five of the six youngest people in my sample suggesting that the power of social movements and networks may be increasingly important for younger generations who will increasingly bear the responsibility for addressing the issue of climate change.

Does climate change motivate climate friendly behavior?

Perhaps one of the most interesting findings of this study is that climate change itself is not a particularly strong motivator for climate friendly actions. However, the role of climate change in motivating individual action is more complex than a simple it does or doesn't inspire climate friendly behavior. This section explores the role that climate change itself plays in helping to understand why people do and do not choose to engage in climate friendly activities including an assessment of how the personal relevance of climate change influences actions and how "pro climate change beliefs" relate to climate friendly behaviors.

I intentionally organized my interviews to allow interviewees to explain their motivesfor their personal energy and transportation actions before I brought up the issue of climate change. I did this to try to gain an understanding of the key motivators from the interviewees' point of view without potentially influencing their responses to include climate change as a motive if that was not in fact important to them. I did not mention climate change in my introduction to the interview or in the questions themselves until interviewees had a chance to explore their own personal energy and transportation decisions in detail. After interviewees had explained their motives and decision making process from their own point of view, I asked them specifically if they thought about climate change when making their decisions about personal energy and transportation actions. If climate change was a very important motivator for their actions, I expected them to bring it up in the interviewee-led discussion before I mentioned it specifically.

Only five of 21 interviewees mentioned climate change as a motivation for their personal energy and transportation behavior in the initial portion of the interview, before I brought it up (Glen, David, Emily, Sonya, and Paul). However for all of them, other motivations seemed to be equally if not more important than climate change. For example, Glen said that not contributing greenhouse gas emissions was a primary reason they are a one car family and that he rides a bike (N6.10). But, when asked how he got started on his energy and transportation efficient actions

and how he sticks with it, he focused on membership in a green social network and did not mention climate change again (N1.10). David said he and his wife bought a Prius to reduce their carbon output (N1.5). But, over the course of his discussion of personal energy and transportation actions it became clear that reducing his carbon footprint is just one element of his overall desire to be environmentally friendly, something he started on before he was aware of climate change as a major issue. For example he mentions social issues, like wars based on oil, a desire to be less wasteful like societies he experienced in Africa, and human population growth and general environmental impacts as his most important motivators (N1.5). Emily said that she originally got started in her personal energy and transportation actions by an overall desire to live sustainably based on her awareness that natural resources are finite and that their extraction harmed people (N1.1). But, once she became aware of climate change that added to her motivation (N6.1).

"I mean, I think initially it was a little more wrapped around the idea of sustainability, knowing that there's only so much oil, knowing that some of it comes from Nigeria and really horrible places and off-shore drilling, the impacts that we don't – that are just externalized, understanding that, and then the climate change stuff came into it, so you put the two together and it seems like it's kind of obvious why it's my obsession. I'm surprised it's not more people's obsession."

Sonya included global warming as one of the environmental issues she was trying to address with her decisions about personal energy and transportation, but she notes that it was part of a larger effort to reduce her overall impact on the planet (N1.4). Climate was also a motivator for Paul. He said the main reason he got started on energy and transportation efficiency was being a member of a climate change organization. He also said that climate change was the reason he originally started riding a bike instead of driving:

"Well, I brought a bike out but I think I would have been much more likely to drive a car had I not been involved in the environmental movement. You know. I don't think it was an aha moment but I said why I picked up a bike, but what I meant was the reason I started riding my bike in the first place was because of climate change. Why I started riding actively. But I would say once you get in the habit it's just easy to keep on going."

But when in discusses his motives in detail, he focuses on social justice, specifically the impacts of our energy system on low income individuals (N4.11).

So, of the five individuals who offered climate change on their own as a reason for their climate friendly actions, it provided the initial motivation for only one, Paul. And even for Paul, social justice issues were at least as important in motivating his actions as a specific desire to

reduce climate change. For the other five, climate change was not what originally got them started in their efficient energy and transportation actions. And, while it was one of things that motivated them to keep going with these actions, it was not the only thing and often was not the most important thing.

When asked specifically if they thought about climate change when making decisions about personal energy use and transportation, two additional interviewees said that they had. Andrea said that reducing climate change was one element of her overall desire to protect the environment. Liz said that climate change was a factor in her decision to use her car as little as possible, but that it was secondary to her desire to save money. However, neither Andrea nor Liz mentioned climate change as a motivator before being asked about it directly.

Several interviewees with high or moderate levels of climate friendly actions specifically said that they were <u>not</u> motivated by reducing climate change including Gary, Joel, and Maya, (high-level actors), and Rachel (a moderate-level actor). Interestingly, all four said the reason they do not find climate change motivational is that the issue is too big for their actions to make a difference. For example, when asked if she thinks about climate change when making decisions about personal energy and transportation, Maya said:

"Climate change, I'm not so certain climate change but I would say environment is important to me. So climate change in itself – and I think that is important. I think climate change is something that is pretty out there for most people because more out there than your current environment. The climate change seems to be kind of the more popular thing to discuss than – like even recycling or anything like that for people these days, they're more willing to talk about climate change and maybe it's because it has less personal responsibility. Really, honestly, just saying that to you, that's why, it's because it really has less personal responsibility. Climate change is something big out there for a lot of people where the environmental movement was really personal, you know, we're going to pick organic food, we're going to, you know, I think it's really important to bring it down to an individual – so that there is something you personally can do to make a difference in the way you shop and the way that you eat, live and drive, or don't."

Crystal, Amy, and Indigo also said that they did not really think about climate change when making decisions about energy or transportation. For example, when asked if she considered climate change when making decisions about transportation and energy, Crystal said:

"Not really to be honest. I think eventually it does but that was not my immediate thought. I think eventually it does. But even like with recycling, I don't know if that's my immediate thought. I think it's in the back of m head because I know that every little bit helps but I don't think it's like oh I better do that for climate change. So, I don't know. I don't think that was forefront. I think ultimately that's part of it but it's subconsciously."

Interestingly, the only interviewee who said that climate change was what initially motivated him to engage in climate friendly energy and transportation actions, Paul, was one the younger "environmentalists" in my sample. Paul said he began to be interested in energy and environmental conservation in high school and college, when climate change was well established as a major environmental issue. On the other hand, the older "environmentalists" in my sample like Gary, Maya, and Indigo, all said that climate change did not motivate their behavior or it was very secondary to other environmental concerns. It is possible that the issue of climate change itself may be increasingly motivational to the younger generation of environmentalists who formed their environmental values when climate change was one of the most important environmental issues.

Do 'pro-climate change beliefs' motivate climate friendly actions?

Few interviewees said that climate change was a primary motivation for their climate friendly actions. However, there was a clear relationship between what one might call 'pro-climate change' beliefs (which I define as belief that climate change is primarily human caused and higher levels of concern and knowledge about it) and higher levels of climate friendly energy and transportation actions. For example, 10 of the 12 high-level actors in this study believed that climate change has human causes and 10 of the 12 people who believed that climate change is human caused were high-level actors. The same 10 of 12 high-level actors also were very concerned about climate change and had a relatively high level of knowledge about it. The reverse is also true, of the nine people who believed that climate change was not primarily caused by humans, seven did not engage in high levels of climate friendly action. Similarly, eight of the ten people who had low concern about climate change were not high-level actors.

These relationships beg the question, do people's beliefs about climate change – specifically belief in human causes, high level of concern about climate change and/or higher levels of knowledge about climate change -- motivate climate friendly actions? Based on relationships alone, the answer seems to be yes. However, based on the broader knowledge of individual beliefs and motives gained from in-depth interviews, it seems that the relationships between belief in human causes of, concern about, and higher knowledge about climate change and higher levels of climate-friendly action are more correlation than causation.

Instead, individuals' environmental values are the more likely antecedent of both beliefs about climate change and climate friendly actions. All of the ten high-level actors who held 'pro-climate change beliefs' also had strong pro-environmental values. And, based on the connections between beliefs, decision making process, and actions that were revealed by the in-depth interview format of this study, it is clear that most of these high-level actors with 'pro-climate change beliefs' were in fact largely motivated to engage in climate friendly actions by their overall pro-environmental values rather than by their beliefs about climate change. Many interviewees noted that they were concerned about the environment and engaged in climate friendly actions before climate change was an issue. For example when asked if she thinks about climate change when making decisions about energy use and transportation, Indigo said:

"I would say it's like a symptom or something like that. It's secondary. I think for me it's – I've been aware of fuel consumption. I lived in California in early '80s, late '70s, early '80s, and it's like – just seeing all the cars and all the smog and all the junk, it's like, wow, and I lived 7 miles from work but I was able to ride my bike because I only had like 1 short little leg that I had to be on a highway, I could go through parks and, you know, bike paths and stuff all the way down to work and back, and so I did that pretty often when I didn't need my car for hauling milk and stuff from the store. Yeah, I think it's – climate change came after energy efficiency for me. Climate change has only been a buzz word for how many years? 5 years maybe? I know it's been in the works but it hasn't been public for more than 5 years. Do you think more than 5 years?"

The two high-level actors that did not believe climate change is primarily human caused, also did not have high levels of concern about it, and did not have relatively high levels of knowledge about it are Crystal and Amy. Neither of these individuals have strong pro-environmental values. And, they were both motivated to engage in personal energy and transportation actions that reduce their climate change impacts by non-environmental reasons. Crystal is primarily motivated by her value of frugality (N3.2) and Amy is primarily motivated by a desire to live a simple and self-sufficient life (N1.3). This further supports the finding that environmental values are in fact behind the apparent relationship between beliefs about climate change and climate friendly actions.

Do people feel that climate change is personally relevant and does that influence them to take climate friendly actions?

Previous studies have proposed that people do not feel concerned about climate change and do not take action to reduce it because they do not feel that it is personally relevant (Lorenzoni et.al., 2007; Leiserowitz, 2006). In my interviews and analysis, I used two approaches to assessing the personal relevance of climate change to try to better understand if this impacts individuals' climate friendly action. First, I used a risk perception based definition in which climate change could be personally relevant if people believe it is going to affect them personally. For example, if someone believes that the impacts of climate change will happen in their lifetime or will impact their quality of life. The second approach was based on the concept of involvement. In this approach, climate change would be personally relevant if a person connects it to important personal values, goals, people, or objects. This section describes how my interviews help to understand if people believe that climate change is personally relevant and how this impacts their decisions about taking action to reduce climate change.

I assessed if interviewees felt that climate change would impact them personally based on the perceived risk approach to defining personal relevance, by assessing if they felt the impacts of climate change would happen in their lifetime and/or if they specifically said they thought they would experience the impacts of climate change personally. This approach to defining personal relevance is similar to studies that have assessed individuals' perception of personal risk due to climate change (Nisbet and Meyers, 2007; Leiserowitz, 2006; Zahran et al., 2006; Lorenzoni et al., 2005; Seacrest, 2000; Sjoberg, 1999). Nearly half of interviewees (10 out of 21) did think climate change impacts would happen in their lifetimes or were already happening (David, Emily, Sonya, Joel, Jane, Maya, Ben, Tony, Paul, and Lynn). Of those ten, six believed that they would personally feel impacts in their own lifetimes or that their children would feel impacts. Maya and David both believed that their children and grandchildren could face major negative consequences, like changes in the habitability of regions of the planet (N6.9, N6.5). Sonya, Tony, Ben, Lynn, and Joel all felt that they would or were already experiencing changes in seasons and weather patterns (N6.4, N6.20, N6.21, N6.12). However, none of these five were very concerned about the changes they personally were feeling. For example, when asked how some of the local impacts of climate change would affect her, Lynn said:

"I feel like we are actually pretty fortunate. I don't feel that a lot of those things, like every day, for sure, but I do feel like the fire season is probably one of the more impactful things for me right now … it impacts like our recreation for sure. It seems like many of the years, we have to try to jam pack our recreation in before August because a lot of times in August there are fire restrictions so we wouldn't be able to camp. And the stream flows, or just playing in the river. So more recreational right now for me. I don't feel like I have to take a shower once every other day because we are running out of water I'm not feeling that pressure or anything like that. So I feel we are still fortunate and because conservation is still in our hands right now I feel like a lot of times but I feel recreation I believe is the most impacted."

Tony and Ben were not very concerned about climate change in general and felt the changes in seasons were annoying but tolerable (N6.20, N6.21). Ben also felt climate change was having personally beneficial impacts because his family was benefiting from government incentives for carbon sequestration in farmlands and incentives for biofuels production (N6.21, N7.21). Sonya and Joel were both very concerned about climate change in general but felt that the changes they were experiencing personally were unimportant compared to the major changes other species and less wealthy human populations would experience. For example, when asked if climate change would impact him personally, Joel said:

"Yeah, probably. I mean if I ever wanted to go to a coral reef that is going to be pretty personal. A lot of the decisions like "I like snow" it's kind of like whatever, we will probably still have snow but, I don't want to make too grand of claims but I do remember my hydrology professor saying something about either Missoula won't have any snow by 2050 or if the projections are correct or we won't have very much. And that is less important to me, I guess. So I guess the way that climate change will personally affect people is going to be different. Obviously, the islands are like 3' off the ocean floor are going to be very affected or are already being affected. Of course, those types of people are going to be very affected by climate change. I personally am pretty insulated; the middle class person is probably going to have no money, food and shelter."

The other two interviewees who thought impacts were already occurring, Emily and Jane did not mention that these impacts would affect them personally (N6.1, N6.16).

Following this approach to personal relevance as a perception of personal impact or risk, many interviewees specifically did not find climate change to be personally relevant. Many interviewees spoke of impacts that were far removed either in time, space, or both. For example, Glen mentioned he believed that the worst impacts will come in "thousands of years." (N6.10) Crystal believed that most impacts would be to "the landscape" and glaciers, both of which seemed impersonal to her (N6.2). She also felt that impacts would happen slowly, and mostly after her lifetime. Gary described dire sounding consequences like wars over resources and major

shifts in agriculture but did not mention that these would impact him personally (N6.6). Based on these descriptions of climate change impacts, if climate change is personally relevant when people believe it will have significant negative (or positive) personal impacts, then it was only personally relevant to three interviewees in my sample: Maya, David, and Ben. However, they were not motivated to engage in climate friendly actions by this sense of personal impact; none of them were motivated to act by climate change in general.

The second approach to assessing personal relevance is based on the theory of involvement. As described in the literature review section, people become "involved" in an issue when they connect it with important personal values or goals, or people or objects of importance. When people are involved in an issue they are more motivated to act on the issue, they seek and process information about the issue more carefully, and they make more careful decisions about the issue (Petty and Cacciopo, 1990). In addition, according to involvement theory people process more personally relevant information through "central route processing", using more deliberate, time consuming, rational, and involved thinking.

Six interviewees in my sample seemed to be "involved" with climate change in the sense that they connected it to important personal values and goals, they sought out information about it, made careful decisions about it, and/or were motivated to act on it. For example, Emily seemed involved in climate change based on the facts that she worked on the issue professionally, she thought very carefully about the carbon footprint of her own actions and she took action to reduce her own contribution to climate change. She was also was very emotionally connected to the issue. For example, she said she "lies awake at night" thinking about climate change and she talks about it in very emotional terms (N6.1). Furthermore, she connected climate change to both her pro-environmental values and her social justice values.

Andrea, Glen, and Paul also seemed involved in climate change based on the fact that they spend a lot of time thinking about climate change in their professional lives: Andrea and Glen worked in green transportation and energy jobs while Paul was the president of his university's student climate change organization. In addition, all three said that their personal energy and transportation choices were specifically motivated by a desire to reduce climate change (N6.8, N6.10, N6.11). Climate change is also important to their pro-environmental values and, in Paul's' case, social justice values.

Joel also exhibited strong involvement with climate change. He actively sought out information on climate change as part of his membership in the climate change "social movement." It also connected to his strong pro-environmental values and interests in the rights of non-human species. And he had a very strong emotional connection to it. For example, he described breaking down emotionally while discussing climate change with his family (N8.12).

Finally, Sonya also seemed involved with climate change. Like Joel, she was very emotionally connected to the issue: she was the only interviewee to cry during the interview when discussing climate change. She also said that she thinks about climate change a lot. In addition, she expressed strong feelings of guilt about how her behavioral choices impact climate change and actively tried to minimize those impacts (N6.4).

Based on these six interviewees it seems that individuals with strongly altruistic values, whether they be strong pro-environmental or social justice values may be more likely to be involved with climate change. This may be because their altruistic values cause them to feel that the impacts of climate change on other people and other species are in a sense personal.

As another way of investigating the relationship between personal relevance and climate friendly actions, I attempted to force climate change to be personally relevant to my interviewees to see how interviewees would respond. Specifically, I asked people if the projected local impacts of climate change in their town would affect their quality of life and how they would respond. The projected impacts for this area include some significant negative impacts on recreational opportunities and other quality of life issues including very hot summers, increased forest fires, low water levels, less snow and more rain in winters, poor summer air quality, and recreation area and fishing limitations. Most interviewees had personal experience with these conditions as recent summer and winter conditions had exemplified many of the changes that are predicted for the Missoula area. Interviewees' reactions to these questions are described in **Appendix 3**.

All 21 interviewees felt that these kinds of local changes would reduce their quality of life. In addition, every interviewee said that they spent a lot of their free time outside or that the natural and recreational opportunities in Missoula were a primary reason they lived here, further supporting the fact that these climatic changes would be personally relevant. However, no one said that they would be motivated to do more to reduce climate change to avoid these personally relevant negative impacts.

Respondents generally had three reactions to these impacts. Some –including people who were highly concerned about climate change and had a high level of climate friendly behavior -- had a "maladaptive" response: they said they would travel further away and, therefore, burn more carbon to be able to continue their preferred recreational activities. For example, Emily said:

"Oh, yeah, I think every year we kind of save the month of August to maybe we'll go vacation somewhere else, maybe we'll go to the coast, but we haven't had to yet. I think it would change – I would spend – I would try to get out of Montana in the summer for some chunk of that smoky, hot stuff. Yeah, so then you're doing just what you don't want to do, you're traveling. We'd like to be in Montana so you're spending carbon to go somewhere just to stave what you don't want to be here."

Some had an escapist response: they said they would move somewhere else. For example, Andrea said:

"I mean, as a person who wants to be outside and hiking and biking and enjoying being outside, not inside, it was very difficult, especially with small children as well, being in a restricted category of sensitive lungs. It would impact how we do things or what we would do. If it was an ongoing thing, may even encourage us to leave this area for a different area that had better air quality and better conditions."

And, some had an adaptation approach: they said they would just deal with it. For example, Amy said:

"yeah, the heat doesn't bother me. But um yeah smoky, I don't like the fires. I mean wildland needs fire to replenish itself so I don't see it as a wholly bad thing but you know see and that summer I just took it as part of the cycle of life. I mean there are gonna be summers like that and summers like this past one. I don't know that anyone can, I mean maybe there is somebody that can predict that cycle but I don't know that. So I just take it in stride one year after another (chuckles)."

These results suggest that even if people believe that the impacts of climate change will be personal this will not motivate actions to reduce climate change. Obviously, impacts to individual quality of life and recreation are not the only kinds of personal impacts climate change might have. However, given that quite a few interviewees said that they lived in Missoula specifically because of the natural and recreational opportunities these do seem to be potentially very important personal impacts.

Is there a relationship between believing that climate change is personally relevant and taking action to reduce it?

Based on the risk perception approach to defining personal relevance -- or belief that one will personally feel negative impacts of climate change – there does not seem to be a strong relationship with personal relevance and action to reduce climate change. Of the people who believed that climate change would have significant personal risks only two – Maya and David -- believed that those personal impacts would be serious, and in both cases the serious impacts would happen to their children not themselves. The vast majority of people in my sample who engage in climate-friendly actions did not believe that they personally would feel any serious impacts of climate change.

The involvement approach to defining the personal relevance of climate change has a stronger relationship with action to reduce climate change. Of the six people who seem to be involved with climate change (in the sense that they think about it a lot, make careful decisions about it, see it as connected to important personal values, and are motivated specifically to take action to reduce it) all engage in a high level of action to reduce climate change. In addition, three of these "involved" interviewees (Glen, Andrea, and Paul) said that climate change specifically was a primary motivation behind their efficient energy and transportation decisions. The other three (Emily, Joel, and Sonya) were secondarily motivated to engage in climate friendly personal energy and transportation decisions specifically by a desire to reduce climate change. However, since the concept of involvement is partially based on the connection between climate change and core values it is hard to tease out if these interviewees are more motivated by strong pro-environmental and social justice values that they connect with climate change or by the perception that climate change is personally relevant. Interestingly, the three people with strong pro-environmental values that were not involved with climate change are, again, the three older environmentalists in the group: Gary, Maya, and Indigo. It may again be that their environmental values were formed before climate change was a major environmental issue and therefore they don't connect climate change strongly with their environmental values (N2.6 and N6.6, N2.9 and N6.9, N2.7 and N6.7). The other environmentalists who do seem to be involved with climate change (Emily, Glen, Andrea, Sonya, Joel, and Paul) may have formed their environmental values at a time when climate change was a more central environmental issue and therefore it is more connected to their identity as a environmentalist.

Believing that climate change will have personally relevant impacts also does not seem to be a significant motivation for action based on my efforts to force climate change to be personally relevant. Not one interviewee said they would take action to reduce climate change as a response to the negative local impacts I proposed, even though they admitted that these impacts would degrade their quality of life. As described previously, respondents said they would go elsewhere for recreation, move somewhere else or they would just adapt to the new conditions. Furthermore, people who had high levels of climate friendly action and strong pro-environmental values admitted they would probably increase their personal greenhouse gas emissions in response to the potential for negative local impacts: they said they would drive or fly to other places –generating more greenhouse gases – to be able to enjoy the recreation opportunities that would no longer be available locally due to climate change. Some interviewees downplayed the importance of the potential local impacts of climate change (such as loss of recreation opportunities, worse air quality, etc) as being unimportant compared to the worse impacts to other species and less powerful and wealthy groups of people who would be less able to adapt to the changes (N6.4, N6.12). In addition, when asked why they were concerned about climate change, many interviewees focused on impacts to less wealthy people and other species rather than potential impacts to themselves. For example, Sonya's concerns about climate change focused on indigenous people and downplayed concerns about not having enough snow locally:

"I think there will be indigenous populations as there already are that will be obliterated. They will have to come up with different ways of living or go the way of many a species. Ah, the drought, I don't see any way that anything is going to be the same. Climate change means climate change, wet places could be dry, dry places could be wet. The ocean levels are going to be rising and so ah, I'm not as compassionate to people, besides indigenous people. So our lifestyle affects the melting of the ice caps and so I think it's incredible and you know the whole oil spill so now people care about the usage of oil because it's affecting that areas in the southeastern united states. And it's not until people are truly affected that they care, but then it's too late. I mean if the water levels are rising. I think in general particularly Americans, myself included, are so far removed. And in Missoula people are complaining that the skiing has gotten worse and it has. We lived here 20 years and the number of days has gotten worse. But I mean that's pretty (rolls eyes implying this is not important)…but that's why people care."

This suggests that people who are motivated by altruism towards other people or other species view impacts on their own quality of life as minor compared to potential impacts on others ability to live. In addition, this suggests that in the case of climate change, altruism, or concern

about others, may be a more powerful motivation for action than concerns about impacts to oneself.

In the end, it does not seem that believing climate change is personally relevant is a primary reason why my interviewees engaged in climate friendly actions. Six interviewees do seem to be involved in climate change, a sign that the issue is personally relevant to them. However, all of these individual's climate friendly actions are better explained by their pro-environmental and/or social justice values than by their perceptions that climate change is personally relevant. I would suggest that personal relevance of and involvement with climate change is more aresult of having strong pro-environmental and/or social justice values and linking the issue of climate change to those values rather than a primary motivation for climate friendly behaviors.

In the end, does climate change motivate climate friendly action?

Overall these results lead to some interesting conclusions about the role of climate change in motivating climate friendly actions. First, climate change does not seem to be a very strong inspiration for climate friendly behaviors. Even for people who are motivated by pro-environmental values, climate change is often not a central consideration in their efforts to be environmentally friendly. Second, 'pro-climate change beliefs' that seem to favor taking action to reduce climate change, such as belief in anthropogenic causes, high concern about its impacts, or high knowledge about climate change do not seem to be a primary motivator for climate friendly behaviors in and of themselves. Instead, these beliefs may largely result from pro-environmental values that pre-dispose people to believe that humans can cause major negative impacts on the environment and lead people to care about climate change because it is a major environmental problem. Third, it seems that most people who do engage in climate friendly behaviors recognize and appreciate as a side benefit that they are also helping to reduce climate change even though this is not the main reason for their actions. These findings suggest that a desire to reduce climate change may help people maintain climate friendly behaviors, but it is likely not enough to inspire people to start those behaviors in the first place. However, the fact that younger people seem to connect climate change action more strongly with their pro-environmental values may mean that climate friendly action will become increasingly more important to the next generation of environmentalists.

Why isn't climate change a strong motivator for actions to reduce climate change?

My results suggest that climate change is not a strong motivator for climate friendly action. Furthermore, my interviewees provide a compelling reason why it is not: people are not motivated to take actions to reduce climate change because they don't feel like their individual actions will do anything to reduce it. Climate change is global problem and it is difficult for any one person to feel that their behavior choices have much of an impact overall. Gary, Joel, Maya and Rachel all said that climate change does not motivate their behavioral choices because the problem is too global in scale for them to feel that their individual decisions have much of an impact (N6.6, N6.12, N6.9, N6.14). Three other interviewees, Jane, Liz, and Emily, also noted that climate change is too big in scale for most people to feel that their personal behavior can do much to reduce it (N6.16, N6.15, N6.1). In other words, people lack a feeling of self efficacy when it comes to reducing climate change and, therefore, they are less motivated to take action specifically to reduce it. Even when faced with the possibility of negative personal impacts from climate change – local changes to weather, water resources, air quality, and recreation opportunities -- no one was motivated to try to reduce these potential personal impacts by engaging in climate friendly actions, again primarily because they didn't think their individual actions would stop climate change, and therefore stop the risk.

As a result of the lack of self efficacy people feel about reducing the problem, people may need motivation other than making a small and individually negligible contribution to reducing climate change to be willing to engage in high levels of climate friendly behavior. This conclusion is further supported by the disconnect between many interviewee's high personal level of climate friendly actions and their belief that individual action on a societal level would not be enough to address climate change. Of the 12 high-level actors, only three (Amy, Indigo, and Joel) thought that individual behavior change would be an effective societal response to climate change. This incongruence between individual action and beliefs about what society should do to reduce climate change is discussed in more detail in 'Explaining Unexpected Actions and Beliefs' section. However, it is relevant here as another example of the fact that reducing climate change is not a primary motive for individuals' climate friendly action.

The action decision process

Many psychometric-based studies of pro-environmental and climate friendly behavior focus on understanding motives for behavioral intention, rather than explaining actual behavior. Furthermore, many studies have found that there is a significant gap between individuals' behavioral intention and their actual actions. The open format interviews I used, which focused on understanding how individuals actually decide about their energy and transportation use, helped to shed light on this 'intention-behavior gap.' I found that individuals' actual personal energy and transportation actions were the result of a two part process. On the one hand, they had a set of motives for their preferred approach to these actions (similar to behavioral intentions), but they also had a day-to-day, in the moment, decision making process that brought in other factors, and sometimes resulted in the negation of their longer term preferred approach to personal energy and transportation actions.

The most important result of this 'in the moment' decision making process was that there are often disconnects between an individual's preferred personal energy and transportation actions –which were often primarily influenced by their values and social influences -- and their actual actions. For example, Crystal said she would prefer to drive less, ride the bus, or ride her bike to save money on fuel and parking but instead she drove to work every day and paid for relatively expensive on-campus parking (N8.2). Similarly, David said he would like his family to use the bus or ride bikes to reduce their environmental impact but they usually ended up driving (N8.5). These kinds of results often show up as error in survey-based studies that predict behavior based on values. My findings about individuals' in the moment decision making process helps to explain this "error" and sheds light on why behavior intention often fail to predict actual behavior.

Compromising values and preferred actions

Compromise was the central theme in many interviewees' decision making process about personal energy and transportation actions that resulted in a gap between their preferred actions and what they actually did. Nearly half of my interviewees (9) focused on the need to compromise between their values and/or preferred actions when making personal energy and transportation use decisions. Issues associated with one's lifestage was the most common reason for compromise. The most commonly mentioned cause for compromise was the realities of

having a family. For example, Glen and David both provided detailed descriptions of how the practical realities of having children limited their ability to reduce their home energy use and personal vehicle based transportation as much as they would like. For example, Glen explained that while he might like to get a more fuel efficient vehicle, he was focusing on a mini-van for his family's next car because it has the space they need and functions that make life with two kids much easier. He explains:

"You know, and, again, this is a family dictated thing rather than our ideal, but we would probably look at a minivan to be honest with you. And, in fact, we have kind of started that search already. And, again, that wouldn't be our ideal car, but that's what our family and our needs right now dictate."

Compromising his environmental values for family needs came up again in his description of how he gets around town – he drives more than he would like to – and how he heats his home – he keeps it warmer than he would like now that he has an infant in the house (N8.10). David describes similar compromises of values for family realities. He explains:

"Yeah, yeah, we do use bikes a fair but, we used them more before we had kids. I don't know if you have kids, but when you're transporting kids you end up driving more. It's the path of least resistance. If you're dropping the kid one place and going somewhere else. (wife) is actually quite good. She'll sometimes put a bike on the car, especially when we drove our daughter to preschool and use the bike for daily errands and put the bike back on the car. But I would guess that 80% of our around town transportation is private vehicle…But the default assumption is we are probably going to drive and we have the conflicting default belief that we will try to minimize driving, but you know the one that actually gets things done is the one that usually takes place."

The need to compromise between values that favor lower energy consumption and less driving and the realities of having a family was also an important theme in Crystal, Sonya, and Andrea's interviews (N8.2, N8.4, N8.8). In the end this theme was important for five of the eight interviewees who had families with younger children.

Lifestage was also a factor for college students. In some cases, they did not think as much about home energy because they lived in rental housing and did not have as much control over home energy issues. For example, even though Paul and Joel both had very strong values and a preferred approach to personal energy that favored reducing home energy, they did not focus on this issue as much in their own lives because they were renting and had less control over their home energy situation. For example when describing his decision about where to live Joel notes:

"Well, basically, my friend just gave me a call and said do you want to move into a house with me and one other housemate? And I am like, okay, sure. It was all set up and I didn't really have time to look for a place. It was basically just convenient. It is not a bad location. I live on the west side so it is close to the train tracks but it is kind of a cool place. I guess in the energy scheme of things I wasn't like "oh, how efficient is this home?" But, I was a little concerned about how much we pay for utilities that is for sure. It is kind of weird because our landlord lives downstairs and we pay the bill for our utilities and our gas and electric and his gas and electric is the same bill. That kind of, I don't know. I have gone down there twice to leave off rent checks and both times all his lights are on and he's gone. I'm like I do not want to pay for this."

Similarly, living near campus – and having a life that was largely focused in the campus area – made it possible for some interviewees to drive less. In some cases, driving less was also supported by their values and was their preferred approach to personal transportation. For example, Joel is pleased that he can ride a bike so much when he is in Missoula because he lives on campus. But he notes that he can't do this at home because things are too far away (N8.12). But in some cases, interviewees clearly would have been just as happy to drive if it was easy to drive and park on campus. For example, in an interchange about how Liz usually gets to school, she notes that she has given up on driving because she can't park:

"Mostly it just depends on the morning. Like I get up, give myself enough time to bike to school, and then anywhere I have to go from school is on my bike. Once I have my bike in the morning, it's a biking day. Whereas, you know, like the last couple of mornings, or even yesterday morning I biked first and then I got to school and was covered in mud and decided I did not want to bike the rest of the day. It just kind of depends on the weather. When it was snowy – even when it first snowed, I was still biking but then it was icy so it was time to take the bus. Just weather really depends on whether or not I'm going to drive.
Interviewer: Sure. So do you park on campus then when you drive here or –
Liz: No, I park off campus. Yeah, just kind of gave up but I'm park – I'll give myself enough time to pretty much walk from Higgins because there's just never parking.

Several interviewees also noted the need to compromise on their values and preference for reducing energy and fuel consumption due to structural realities. In some cases, the lack of structural factors enabling more climate friendly actions was the result of individual choice. For example by choosing to live in a rural area, Tony clearly did not prioritize being able to walk to town or a ride a bus. However, these structural realities were also sometimes beyond the control of individual's. For example, Joel noted that he would not be able to live without driving in his hometown because most of the shops are miles away in a different town with no public transit option (N8.12). As a young person living with his parents, he was not able to influence his

residential location. Similarly, Crystal said she would prefer to drive less and use mass transit more like people in bigger cities, but she did not feel Missoula had an adequate transit system to support that. Ben also noted that he would like to use mass transit when he was at home, but he lived in a very rural area where the only option is to drive long distances to get where he needed to go:

"how I grew up, though, because where I lived, we had to – I lived out in the country so we had to drive into school every day. I lived 20 miles away from where I went to high school, so I drove 20 miles there and 20 miles back every single day for 4 years. And so, like, when I finally got to Missoula and I lived in a place where I didn't have to drive every day and I could just hop on a bus, that kind of changed my outlook on stuff."

Similarly, he noted that even though he might like to reduce his contribution to climate change, he had no choice but to use fossil fuels in large quantities on his family farm because they have to power their tractors and other machinery to do their job (N6.21).

Some interviewees also noted that they felt pressure to compromise their values and preferred actions due to social pressure. Joel noted that he felt pressure to fly and drive from his family and friends who did not have the same environmental values as he did (N7.12). Glen also noted that he feels pressure to compromise on riding his bike with his kids because his extended family feels it is not safe (N8.10).

Finally, people also compromised their values based on other priorities or things they want to do. For example, Crystal compromised her value of frugality when she bought a gas guzzling truck for her family to be able to pull a camper trailer (N8.2). Sonya also described compromising her desire to have a low environmental impact with her desire to do the things her family wants to do, like driving miles away to go skiing every weekend, or flying to visit family on the east coast, even though these things make her feel guilty. For example, she explains:

"yeah, I mean we're willing to change the things that are easy to change…but we're still skiing we're still flying" and "What should we be doing. You know it's a really hard one because should we be doing personally I mean personally we should not be driving to Discovery every weekend in the winter in our big van. But we will."

Several interviewees admitted that they compromised on their values or preferences to have a smaller environmental impact simply because they did not think about it on a daily basis. For example, Jane admitted that she wishes she did think about climate change more when making decisions, but it take more effort to think about it and sometime she just doesn't. She explains:

"I still, you know, I mean, it's hard sometimes we get lazy and you know, make bad choices. But, I do, I try to. Like, I could, I guess I make small efforts by not getting another car and realizing that I could. Maybe go out and doing something like that. Trying to ride share and things like that, so I make small efforts I would say."

Why do some people act on their values more than others?

This leads to important questions about why some people incorporate their values into their decisions more than others. For example, Jane, Liz, Ben, Rich, and Rachel all had generally pro-environmental beliefs (N2.16, N2.15, N2.21, N2.13, N2.14). They all believed that people should try to reduce their impacts on the environment but none of them followed through on these beliefs very much in their own behavior. Strength of values appeared to be one key difference between people who exhibited high levels of climate friendly actions and those who had moderate or low levels of action. Environmental protection was a central life focus for many of the "high actors" in this study like Glen, Emily, David, Sonya, Gary, and Joel (N2.10, N2.1, N2.5, N2.4, N2.6, N2.12), while it seemed much less important to Rachel, Rich, Ben, Jane, and Liz, all moderate actors.

Similarly, interviewees with higher levels of action seemed to base their identity on those values. For example, Crystal defined herself in financial management terms, calling herself a budgeter. She also took a lot of pride in her actions to be frugal, even taking pride in teasing from her friends about it (N3.2). Glen and Indigo both explain that following their values makes them feel good (N2.10, N2.7). For example when asked how she keeps her motivation to do all the energy efficient things she does she says:

"I don't know. Something feeds me somewhere. I think it's true for everybody. If you find where you belong, you get fed by that. And it's hard work but it somehow even the work feeds you. There's an energy flow, and if you don't block it along the way, it just keeps happening. I don't know. That's the best I can guess."

Similarly, she describes her decision to found and eco village by saying:

"I'm a person that's driven from inside, and so when like somebody says something about this meeting [about an eco-village], it's like, click, I'm going. It was not, Oh, I really want to join a eco – you know what I mean? It wasn't an intellectual process. It's just like something that's like it clicked so I did it. And when I look back on my life, it's been run that way, it's been run from messages inside that when something happens out there that I need to do, I just get the energy and I do it. I don't know how that works, some internal guidance system but it works."

This also supports the idea that these values are central to their identity as acting on them makes them feel more like themselves. Similarly, Sonya, whose actions were motivated by strong pro-environmental values, said that caring about the environment was just part of who she is. When asked why she engages in so many energy efficient actions she says:

"That's a hard one, I mean that's who we [her and her husband] are. I feel internally guilty when I'm driving the big car around except I know that there's times I have to. It's the society we live in. So, its internally motivated."

Sonya also sheds light on another possible reason that some people take more effort to engage in environmentally friendly energy and transportation behaviors when she notes that her choices are internally motivated, they are not motivated by saving money (N1.4). This statement fits with my overall finding that people who are motivated by internal values seem to engage in higher levels of climate friendly behaviors than people who are motivated to save money. Even Crystal, who is motivated by allocating her finances wisely, is really motivated by a strong core value of frugality rather than by a common desire to save money.

Another possible reason that some people act more frequently on their pro-environmental values may be that their values are supported by their social networks. Several interviewees specifically noted that they are motivated to engage in climate friendly actions by support from their social network. For example, Glen noted that being part of a social group that focuses on green living is a primary motivator for his own climate friendly actions (N7.10). Paul and Joel were also motivated by being part of a social group focused on climate change (N7.11. In addition, most of the high actors said that their friends held similar views on environmental issues and engaged in similar climate friendly actions. For example, when asked if he talks with his friends much about the energy efficient things he does he says:

"Yeah, I'd say we encouraged but most of our friends were fairly like minded. So it's not like we're converting anyone."

Similarly, when asked if she talks about energy and transportation much with friends Sonya says: "well we, like everybody else, have surrounded ourselves with like minded people. So, it comes up in conversations but its more just a given."

Indigo has a similar response to this question and even mentions having similar values systems specifically:

"My friends – yeah, those things are common. I mean, it's like you sort of have friends that are like you in a lot of ways, have the value systems."

These people did not specifically say that having they were motivated to engage in climate friendly actions because they have friends that support their overall thinking and approach to personal energy and transportation. However, it may be that it is easier for them to act based on their pro-environmental values because those values and related actions are supported by their social network.

Acting on habit vs. conscious decisions making

Habit also played a role in why some people live out their values in their personal energy and transportation decisions more than others. Several of the high actors in this study specifically said that they don't think of their values every time they make a decision but they have formed habits and common behavioral options based on their values, which makes it much easier to act on their values. For example, Andrea noted that she may not think about saving the environment every time she turns off the light, but her strong pro-environmental values helped her form habits of environmentally friendly behavior. She explains her motives by saying:

"To me it's all related, you know, again, going back to the kind of the essence of it, it's like I'm doing this for the environment and a side benefit or an additional benefit is the cost savings. So they're hand and hand type thing. So do I consciously go, I'm turning these lights off to save the world? No, but what's motivated that habit is definitely a reduction in consumption of fossil fuels and oil and all of that."

Similarly, Paul explained that he did not think about climate change every time he gets on his bike. But climate change is the reason he purchased a bike in the first place so he would have a readily available alternative to driving (N6.11).

While making habits out of climate friendly actions was important for many high actors. It also seemed that high actors made more careful and conscious decisions about energy and transportation actions than moderate and low actors. Instead of acting just out of habit, they seemed to be really thoughtful about energy and transportation actions and carefully weighed the different options on a daily basis. For example, Glen said that he discusses energy and transportation issues regularly with his family. For example he said:

"Obviously, again, in my home, with just my wife and my kids, you know, we talk about it all the time, like I have already said, just water conservation, turning lights off. Is it warm enough to hang the laundry out? Can we – should we walk to this dinner party? Let's ride to the farmer's market or, you know – that's how we interact. That's mostly like an all good thing, you know, it's not really discussion, we just try to identify ways where we can."

Similarly, Sonya spent a long time describing how her family decides what mode of transportation they will take, which was clearly a very conscious decision on a daily basis:

Sonya: "well, so if it's just me and I'm going someplace that I don't then have to coordinate other people I use the bike. But since I try to piggy back many activities, I end up using our Toyota Prius, which looks just like [names friend] same color. In fact we were interviewed by early on in the Prius life by one of the news channel. They had their person in the car with me interviewing us and then putting it on TV showing a family in a hybrid.

Interviewer: So my next question was going to be what kind of car do you drive. You have a Prius?

Sonya: Yeah, we have two cars. But I'll go back to transportation, since we are a family. We also have a tandem bicycle. So [husband] does usually is he bikes to work we live up in the rattlesnake on his tandem with the possibility that there is one child that will be doing an afterschool activity that I would have dropped off that he then picks up on the tandem and rides home. So we have two cars. We have the Prius which is what we use almost all of the city driving. We also have a VW vanagon or one of those things. yeah, one of those pop up tops that can seat 5 kids in the back. So this afternoon I'll be using it because I'm picking up 5 kids at school. So there are times we use that. And then when we go on road trips we use that."

This kind of conscious decision making about energy and transportation actions was also an important theme in several other high actors' interviews including Crystal, Andrea, David, and Emily (N8.2, N8.8, N8.5, N8.1). While it was not a central theme in most moderate- and low-level actors' interviews. This suggested that people who engage in high levels of climate friendly action may differ from moderate and low-level actors in two important ways. On the one hand, they include more climate friendly actions in their regular decision set, which is at least partly based on making a these kind of actions a habit. But, they also make very conscious choices on a day-to-day basis rather than simply acting out of habit or making the easiest choice.

Major purchases vs. small daily decisions

Another important element of how people's values and preferred actions translate into their actual actions was a difference between one time major purchases and everyday small decisions. In some cases, interviewees seemed to find it easier to "live their values" in their major purchases like a vehicle or home. For example, Sonya made very environmentally friendly decisions in line with her values when buying a hybrid vehicle and building an energy efficient,

green home (N1.4). However, she was more willing to compromise her environmental values to the sake of convenience in day to day decisions about whether to drive or use more environmentally friendly transportation like bike or bus (N8.4). Similarly, Maya lived according to her combined values of environmental preservation, reduced consumption, and socially connected communities by choosing to live in town instead of in the country (N1.9). However, she said that she regularly chooses to drive rather than ride the bus when she is going shopping (N8.9). Emily and David also followed their environmental values in perhaps the biggest decision a family makes. They decided to have only one child in an effort to keep their environmental footprint small (N2.5). However, as David notes, they compromise their pro-environmental values in day to day decisions to drive more because they have a child (N8.5).

This focus on living in line with one's values for major purchases over small everyday decisions might be explained by several things. First, it's obviously harder to make conscious decisions everyday compared to once in a while, so it may simply be easier to consider one's values only in occasional, major purchases. It also may be that these major decisions help people set up their lifestyles to support their values so that they don't have to consciously weigh their values vs. other factors on a daily basis. It also may be more rewarding to live according to ones values in major decisions rather than small daily decisions.

Overall, an in-depth understanding of individuals' 'in the moment' decision making process about personal energy and transportation provides one of the most interesting findings of my study. It helps to shed light on why there are so often differences between people's values and preferred actions and their actual behavior, something that is regularly found in psycho-metric based studies, but rarely explained.

First, I found that many people feel the need to compromise on their values or preferred actions due to family, structural constraints, social pressures, and conflicting desires. In addition, there seems to be a fundamental difference between people who have strong environmental values and people who do not. People with strong environmental values seemed to have incorporated their values into their identity more than people with weaker environmental values. People with strong environmental values were far more likely to act on those values.

Similarly, people who have developed habits or ingrained behavior choices based on their values seem to engage in personal energy and transportation decisions that support their values

more frequently. But I also found that people with high levels of climate friendly actions made more conscious and careful decisions about their energy and transportation use on a daily basis than those with lower levels of climate friendly action.

Finally, the kind of decisions people are making seems to influence if core values play a role or not. Some people seemed to base major decisions on core values more than small daily decisions.

Explaining unexpected actions and beliefs

I found some results that on the surface seemed unexpected but actually made sense based on the detail and nuance of information provided by in-depth interviews. This section explores two areas of 'unexpected' actions and beliefs: (1) how variety in the way individuals define similar values helps to explain why they choose actions that don't seem to fit their values, and(2) why many individuals have significant differences between what they do in their personal lives and what they think society as a whole should do about climate change.

Variety in the specifics of seemingly similar values

My finding that values play a central role in motivating people's personal energy and transportation actions as well as their beliefs about climate change is not new. This has been found in many previous survey-based studies (Poortinga et al., 2004; Schultz et al., 2005, Cordano et al., 2011; DeGroot and Steg, 2010; Van der werff et al., 2013a; Klockner, 2013; Dietz et al., 2007; Dietz et al., 2005; Leiserowitz, 2006; Kahan et al., 2011; Tikir and Lehmann, 2010; Dunlap et al., 2000; Gifford, 2011). However, my results do provide some additional insight on the role of values in motivating beliefs and actions. Unlike survey-based research which tends to focus on relationships between pre-defined, discrete variables like values and actions, my results include a more in-depth understanding of how individuals define and connect their values and how those values are translated into actions. Based on this more nuanced understanding, I found that there was substantial variety in how individuals define their values and beliefs about the environment, social justice, consumption, and role of government. Individuals who held generally common values – and might appear to be quite similar based on survey responses – actually had very different beliefs and prioritizations within those values.

Most importantly, this variety in key values led to substantial differences in personal actions and in individuals' beliefs about what society in general should do address climate change. For example, I found that just because people held generally pro-environmental values did not mean they cared about the same things, acted the same way, or would support the same climate change reduction plans. This is a limitation in survey based research that focuses on lumping people into categories without understanding the nuances of their beliefs.

I found that differences in how individuals defined their generally pro-environmental values, and interactions between environmental and consumption related values were important for understanding the behavior choices of many individuals. A comparison of environmental and consumption beliefs between six of my interviewees (Joel, Maya, Paul, Emily, Gary, and Crystal) illustrates this point. All of these interviewees have some generally pro-environmental values. However the specifics of their beliefs and the actions they led to are quite different.

Joel had very strong pro-environmental values that form a central focus of his life and underpin many of his behavioral decisions (N2.12). However, his environment values had a very specific focus on the rights of non-human species. His belief that other species should have freedom from human intervention and be able to fulfill their evolutionary potential without human interference was a guiding principle in his life. He cared about climate change primarily because of it impacts other species, their habitats and their ability to thrive. This helps to explain some of his potentially unexpected beliefs about what society should do to address climate change. Contrary to many people with pro-environmental values who want to solve climate change by finding carbon-free energy sources, Joel did not support the development of a totally clean, totally renewable, carbon-free energy source. Even though this would solve the climate change problem, he feared it would exacerbate human impacts on other species by encouraging more development, more driving, and more conversion of natural habitats for human use. Joel also did not support assisted migration, the idea of moving species from a location that has become unsuitable for them due to climate change to another more suitable location, even if this means a species will go extinct. Again, this seems contrary to his generally pro-environmental beliefs, and even his love of non-human species. However, it makes sense in light of his core belief that non-human species should be free from human interference. Understanding the source of Joel's pro-environmental values helps to explain these potentially unexpected beliefs.

Maya also had pro-environmental values but her environmental focus is preserving the beauty of nature, rather than general protection of the environment, or specific concern for non-human species. When she described what it means to her to be a good global citizen, she focused on preserving natural beauty and reducing cars. For example, she said:

"Well, I think, for me, what it means is that I really want to preserve the beauty that I've seen. My best example here would be as a child growing up we used to go to Yellowstone and it was a very pristine beautiful place and bears were there and – there were people there but there were not – and there were people in lines in cars but the people and the cars did not overtake Yellowstone. I can hardly go there anymore because there's so much pavement and it's all designed to make cars enter better and I think we gave away one of our world's beauties to the car, for God sakes, when we could have said you can only enter this beautiful pristine place in some – a bus."

Furthermore her primary motivation for personal energy and transportation actions were combined community-consumption values, which are described in detail in the idiographic chapter. Understanding the nuances of her environmental values and how they interact with her other values to motivate her actions helps explain why she did not care that much about fuel efficiency when she purchased her vehicle (N8.9). Though this seems at odds with having pro-environmental values, it makes sense after understanding that she felt she was in fact living her values of preserving natural beauty, reducing consumption and building dense, socially connected communities because she organized her life to drive less, use public transit, and not despoil nature by living in the suburbs (N2.9). The specific fuel economy of her vehicle was less important to her because she was not primarily motivated by a desire to reduce pollution or climate change.

The specifics of her values also help explain why she did not support lower pollution electric cars –even ones that are powered by low carbon electricity -- as a way to reduce climate change. She explained:

"Is an electric car what we really want? Is that all the better we can do? Why don't we have solar cars? But ultimately even if we found the perfect car that, you know, ran more efficiently, you still have to park it, and once you're parking it and you still have to have a place to drive it, and those two things take up a lot of land space and they cause a lot of wasted energy use to get from point A to point B. Even if you do that, that is not the end-all solution. That's my religion."

Again, this makes sense based on her environmental and consumption/community values. Electric cars might help reduce climate change and generally benefit the environment, but they

would be at odds with her desire to reduce personal vehicle use in favor of socially connected communities where people live closer to each other and ride the bus together.

Gary also had strong pro-environmental values but his environmental values incorporate a preference for low technology solutions and consuming less rather than consuming energy and products that are "cleaner" or have lower environmental impact. His description of how he handles energy in his home illustrates this point:

"So you kind of – I'm kind of an energy nut, I think, even when the guys that came here to do an energy audit a few weeks ago, as they were coming here, they were looking at my power bills and they're just going, what is this guy doing? What – he must have a bunch of photovoltaic panels on –Yeah, what's going on here? I just keep my thermostat at 60; turn it down to 55 at night. I wear sweaters, and I like coolness. A lot of people don't…So in terms of the house, when I retrofitted it, I super insulated it, put in new windows, R60 on the ceiling, R26 on the walls, 94 percent efficient furnace underneath your feet. I just did – I still have water heater that works, it's not the most efficient but it works, and my consumption of gas to heat water here is pretty negligible. So I'm just hanging on to it until it dies. But I do have two photovoltaic panels on the roof that are back feeding into the grid that reduce my electrical consumption in the summer. So – but I don't really want to go overboard with photovoltaics right now, they're expensive and I'd rather cut my consumption than to create more electricity….Well, you can save money by sale items or you can save money by not buying anything you're just not needing it. Just consuming less resources."

Also similar to Maya, Gary was primarily motivated by a combination of environmental and consumption values focused on building community and lowering consumption through better planned communities with density, walkablity, and mass transit (N3.6). He also prioritizes fostering local consumption (N3.6). This helps explain why he did not favor widespread use of solar panels as a way to reduce climate change, something that many with strong environmental values would favor. He felt that solar panels just consume more resources to make a new product when what society should be doing is reducing energy use through conservation (N3.6). He noted that solar panels are the icon of being green, but he countered: "what about reducing the consumption of electricity in these buildings so that you don't even need photovoltaic panels?" Similarly, Gary might not support climate change policy that focuses on incentivizing the purchase of newer, more efficient technologies as these would encourage increased consumption and more technology rather than the low technology solution of simple conservation that he prefers.

Crystal also had generally pro-environmental values and she might appear to be at least a moderate environmentalist in survey based research. For example she recognized and was

pleased about the environmental benefits of her efforts to reduce fuel and energy use (N2.2). She also recycled cans for all of her friends and family (N2.2). However, it is clear from an in-depth interview that her high levels of climate friendly actions were primarily motivated by frugality, not by environmental values. Because she is focused on lowering her own expenses, she likely would not support climate change reduction programs that would result in higher costs to her in the long run. For example, she was willing to accept government intervention to improve vehicle fuel efficiency in part because she would benefit from this by being able to spend less on fuel (N5.2). But she might not support a cap and trade system for carbon emissions if it resulted in higher electricity costs.

Paul and Emily both had strong pro-environmental values. However, their interviews revealed that their interests in climate change and in reducing their own environmental impacts were primarily motivated by concerns about social justice, or equity in treatment for poorer and less powerful groups. For example, when asked to describe the impacts of climate change that concern her, Emily focused on impacts to poor people:

"But – so, I mean, we're going – there's the more extreme weather. I think the biggest thing we are going to see in this area is the impacts of less water, especially as you go further south and we're going to see the stress that comes along with when people – when people's lives are up. These are people, people's lives, so – and that's going, you know, whether that's from forest sign or, you know, but I think there's the more extreme – the sad thing about climate change, and I think that's why a number of people actually are really interested in this issue, the work on this issue is because it's the poor people – the people who have less means that are going to be harmed the most. So it's going to be in a lot of countries – it's already happening in a lot of countries where we don't see and I that's I think the people and also (inaudible) things that live there are going to be harmed the most. We could talk for hours about the potential impact, but – it's happening now and we're already seeing impacts, and I think in some reasons we're not seeing them because we're not looking in the right places. We're not in Northern Kenya. We're just not there. And they've had disasters before so to assume that this anything new and different or that we've had – that we're responsible for it in some way, shape or form is not anything – anywhere where people want to go."

As a result of their focus on social justice, Emily and Paul might have different priorities for policies to address climate change than someone who was primarily motivated by a desire to protect non-human species or the environment in general. For example, they might not support climate change reductions that harm poor people or don't try to make things better for poor people. For example, Emily is careful to say that climate change solutions should be equitable:

"What I've worked most on in the last 2 years is been trying to come up with a strong policy at the federal level that would require us, as a country, to move in a different trajectory, move off of fossil fuels and basically treat carbon as a pollutant and make it more expensive so that people start becoming more efficient. You build in policies that allow for there to be some buffers for low-income people or they can get money back from these systems and so we should have a national climate and energy policy that takes us in a radical different direction."

Paul also focuses on the need to reduce inequalities in his thoughts about how to address climate change:

"But I think that it's really easy for me to justify work on climate change from any political perspective but where it starts to break down is when we start talking about the need to balance out the economic inequalities and when we need to reexamine the way that we treat minorities or whether its race or sex or sexual orientation or whatever. I think that if we're not treating people equally than we're going to get back in the same situation. Van Jones is somebody that I think is really, kind of says it well, and he has this green for all, all for green statement he always says that these are positions that called green for all or it's called all for green, I can't remember. He always says "don't put a solar panel on this society cause that's not going to fix our problem." You know, we'll be in the same situation; we'll still have all these other problems. We might not have high carbon emissions but we'll still have toxins all over the place, you know that kind of stuff. I think he's right, he's got a good point. I think that we gotta find a way to make things run appropriately and, I don't know, that's where it gets hardest."

The issue of equity for poorer and less powerful groups has been a major sticking point in international climate negotiations. Emily and Paul exemplify why this might be the case and underscore the importance of understanding multiple values, perspectives and priorities in climate change solutions.

Variety in beliefs about the role of government in society was also important for understanding the kinds of climate change policies and solutions people would support or accept. In my interviews, I found that there was substantial variety in what people meant when they said that government should take a leading role in addressing climate change. As mentioned previously, nine out of 21 interviewees believed that government should take the lead in addressing climate change and 16 out of 21 supported some government interventions in society in the context of climate change (Table 5.17). However, there were major differences in the kind of government interventions these interviewees would support. On one extreme, people like Sonya, Maya, and Emily were self-described socialists. They said they would support significant government intervention in individual decision making if it benefitted the common good. For example, Emily said:

"Sure, I guess in the sense that I come from a – I mean, my political views are very much oriented towards the government is good and it works and it should be operating for the common good and we, as a society, should be thinking about policy that works, so I'm not afraid of policy and regulations and I think it's great. So, sure, it's easy to come up with ideas about how – I mean, it's easier to be supportive of ideas around climate change because it does take that because this nefarious little – you can't see carbon, it's one big sky, it's all those – it's a very difficult issue to try to operate, to put regulations and policy on because of the nature of the problem, but because I don't – yeah. I'm just a socialist at heart, I guess."

Others, like Rich, Gary, and Glen seemed to prefer a much smaller role for government. They only mentioned support for government interventions in market forces, or interventions with financial incentives to encourage but not mandate individual behavior changes. For example, Rich mentions several times that he is not anti-government, but he focuses on government providing incentives to change behavior rather than regulating individual behavior choices. For example, he says:

"Our government is the place you go for things like that, in my opinion. So if gasoline were where it needed to be, or even close to where it needed to be, I think it would have an affect on people's decisions. Right now, even three bucks or whatever it is, it's not high enough. I need that help too, and I actually think I'm – I'm a pretty independent thinker and I'm not afraid to voice my opinion, pretty strong-willed and I would say in the context of the environment that humans have created, I need those incentives as well."

Crystal was also hard to pigeonhole in terms of her beliefs about government. On the one hand, she favored individual freedom and did not think government should intervene in individual's choices (N5.2). On the other hand, she recognized that climate change is too large a problem for unorganized individual action to address (N5.2). In the end, she said she supports government regulation of businesses but not individuals in the context of stricter fuel efficiency standards for vehicles (N6.2). However, it is not clear if she would support government regulations of businesses if they did not also support her core value of frugality by resulting in lower overall costs to her.

These results underscore the importance of understanding the variety and nuances of individuals' values and beliefs when trying to understand why they act as they do and/or are willing to support or reject approaches to solving climate change. The variety in my interviewees beliefs was critical for understanding why individuals who might seem to hold similar beliefs, such as favoring a role for government in addressing climate change or being generally pro-

environment end up taking very different personal actions and supporting different societal approaches to address climate change.

Differences in personal action and recommendations for reducing climate change

There was a substantial difference between what individuals thought society should do to address climate change and what they did in their own lives. This was another potentially unexpected finding that made more sense based on the in-depth information gained from interviews. Of the eight interviewees (Jane, Lynn, Grant, Tony, Joel, Amy, Indigo, and Rachel) who thought that individual behavior change should be the primary focus of societal efforts to reduce climate change, only three (Amy, Indigo, and Joel) engaged in high levels of climate friendly action in their own lives. The reverse was also true: only three (Amy, Indigo, and Joel) of the 12 individuals with high levels of climate friendly actions thought that individual behavior change should be a primary focus for addressing climate change at a societal level. One of those, Joel, felt that individual action should focus on protests and other awareness raising measures aimed in large part at encouraging government to take climate change more seriously and take action on the issue (N6.12). Hence, Joel's focus on individual action as the primary focus for societal action on climate change was also an acknowledgement of the need for government action.

Seven high-level actors (Emily, David, Gary, Maya, Sonya, Crystal, and Andrea) believed that government would have to take the lead in addressing climate change (N6.1, N6.5, N6.6, N6.9, N6.4, N6.2, N6.8). The remaining two high-level actors (Glen and Paul) thought that the business community should take the lead (N6.10, N6.11). However, both implied that government action would also be required but that because the federal government was currently too hamstrung and ineffective to accomplish much on the issue of climate change, the business community might be able to act more quickly and effectively. For example, Glen said:

"I see them all as having to be on board. As far as business and government, I think it's a close – if I had to choose one, I think it would be close but I think in the end, business probably has the most power. And I think that that's because, I mean, we all like money. They have tons of capital, government has tons of capital too but it's public capital which is highly scrutinized, and elected officials can change so rapidly and the process of legislation can be so slow and excruciating that I think business, the business community is agile and I think really for widespread change I would have to choose them, although I think government plays an extremely important role to provide incentives, especially tax breaks I know have motivated tons

of people to do things, as well as – I think government, and I work in local government, should feel responsible too for setting the tone and leading by example and so, you know, I think that this needs to be on their radar and they need to actively be involved. But if you're asking me to choose sort of – if I had to choose one entity that needs to move this along, I would say probably the business community."

So why do people engage in high levels of climate friendly action in their own lives if they do not think individuals can have that much of impact on climate change at the societal level? A primary reason for this is that most of these high-level actors were in fact not motivated by a desire to reduce climate change. Though most recognized and were pleased by the fact that their actions helped to reduce climate change, this was not their primary motivation. Instead, their climate friendly actions were motivated by living in concert with core values such as pro-environmental values, consumption related values, or social justice values . For example, Glen and Sonya – both of whom hold strong pro-environmental values -- note that that they engage in environmentally-friendly energy and transportation actions because it makes them feel good and it is part of "who they are" (N1.10, N1.4). So, their climate friendly behaviors are in fact not primarily an effort to reduce climate change.

On the other hand, why do these high-level actors -- who know firsthand that is possible to reduce carbon emissions through individual action -- think that government will have to take the lead on reducing carbon emissions at the societal level? For five of these high-level actors (Emily, David, Maya, Sonya, and Andrea) this may be explained in part by their overall belief that government should have a strong role in society. Emily, Maya, and Sonya all described themselves as socialists (N5.1, N5.9, N5.7). Andrea and David both said their political views were left of liberal (N5.8, N5.5). And all five expressed the belief that government should intervene in individual choices to benefit the common good (N5.1, N5.5, N5.9, N5.4, N5.8). Interviewees also seemed to recognize that on a larger scale, people might be too lazy to engage in high levels of climate friendly behavior. For example, Crystal, Sonya, Gary, and Andrea noted that they don't think most individuals would be willing to mirror the level of effort they themselves do to engage in such low carbon behaviors (N6.2, N6.4, N6.6, N6.8). For example, when describing what it will take to make individuals' engage in more climate friendly behavior, Gary explains that people will need a strong push:

"And I'm trying not to sound mercenary because you know where I'm at philosophically, you know where I'm at ethically, but the only way I think we can make this change I think it's either

got a spiritual transformation or a monetary one. I will default to the monetary one. It's got to hurt. It's got to somehow hurt."

It was also interesting that several people focused on the need for financial and market incentives to get individuals to change their behavior even though they specifically said that financial incentives were not a strong motivator for their own action. For example, Gary's ideas on how to address climate change at the societal level focused almost entirely on the need for price signals and market interventions to change people's behaviors. While in his own life, he did not mention the financial benefits of his climate friendly actions as a main reason for doing them.

Another unexpected finding was that many of the interviewees who believed that individual action should be the focus of societal efforts to reduce climate change made very little effort to be climate friendly in their own lives. For example, Tony, Lynn, and Grant, all said that individual's should lead efforts to reduce climate change, however, they themselves engaged in very little climate friendly action. Their belief that individuals should lead efforts to reduce climate change may stem from their belief that government should maintain a relatively small role in society in general (N6.20, N6.18, N6.6). In addition, their low level of personal action to reduce climate change can be explained by the fact that they did not believe that much need to be done to address climate change. Furthermore, they had low levels of climate friendly action because they did not have any strong values that supported the kind of personal energy or transportation actions that ultimately result in lower carbon emissions.

These discrepancies between what individuals do in their own lives in terms of climate friendly actions and what they recommend should be done to address climate change at a societal level provide another example of how important it is to understand the nuances of individuals' values in understanding their actions and beliefs. They also help to underscore how in-depth interviews can help to explain seemingly unexpected results that might show up as unexplained "error" in survey based research.

Chapter summary and conclusions

This chapter reviews how patterns across interviewees help to understand my primary research questions. I began the chapter by explaining how I grouped interviewees into categories

based on patterns in their values, beliefs, and actions. This provided an important base for understanding the similarities and differences in individuals' beliefs and actions I explored in the remainder of the chapter.

Assessing patterns across interviewees provided important explanations for why people engage or don't engage in climate friendly behaviors. I found that people's core values were a very important factor in understanding their personal energy and transportation actions. People in my sample with core values that support environmentally friendly and socially altruistic behavior, namely pro-environmental and social justice values, engaged in high levels of climate friendly behavior. Individuals whose values favored lowered consumption also engaged in high levels of climate friendly behavior. People who lacked strong values in these areas or had strongly contrary values (either anti-environmental or pro-consumption and capitalism values) tended to engage in much lower levels of climate friendly behavior. This finding supports much previous research on environmentally friendly behaviors.

However, I also found some unique reasons why people engage in climate friendly behaviors. For example, several interviewees were motivated by membership in environmentally-focused social movements or social networks. Many previous studies have found that social norms play an important role in motivating behavior. But this role of social networks provides an interesting new angle on the role of social influences in motivating actions.

I also found that saving money did not motivate high levels of climate friendly action. Many high-level actors found saving money to be a positive side benefit of their actions, or even a secondary motive, but it was not often their primary motive. On the other hand, it was a primary motive for moderate levels of action. This suggests that saving money may encourage smaller individual actions to reduce climate change and reinforce higher levels of action, but may not be enough to initiate high levels of action.

Interestingly, I found that climate change itself was not a very strong motivator for climate friendly action. This was largely because individuals did not feel that their actions had much impact on such a large and global problem. This finding also underscored the importance of other factors in motivating climate friendly behavior. Similarly, I found that it does not seem to matter if people believe that climate change will impact them personally. Again, this is likely because people recognized a disconnect between the impacts of a large global issue like climate change and their ability to stop those impacts through their own individual actions. On the other

hand, many people who were highly involved with climate change – a sign of something being personally important or relevant – did engage in high levels of climate friendly actions. However, this seemed to be more related to having strongly pro-environmental or socially altruistic values that were triggered by the issue of climate change and made them involved in climate change. In other words, values again seemed to be at the root of individual's climate friendly action rather than the issue of climate change itself.

Though values were an important motivation for interviewees' personal energy and transportation actions, I also found that people often did not act on their values. Instead, I found that values motivated individuals' preferred approach to these actions, but sometimes their values and preferred actions were "overridden" in their actual decision making process. Specifically, I found that people compromised their values and preferred actions due to the conflicting needs of having a family and children, the realities of available infrastructure, social pressures, conflicting desires like the desire to give their families or themselves things they wanted even when these were not energy efficient choices, and failure to keep energy issues top of mind in decision making. I also found that people whose values were more central to their identity and who had strong social support for their values were more likely to act on those values. In addition, people who had formed habits based on their values were more likely to act on those values. However, many people who engaged in high levels of climate friendly action did not just fall back on habit, or other decision making short cuts. Instead, they made more conscious and thoughtful decisions about personal energy and transportation use than people engaged in less climate friendly behaviors. Finally, I found that the type of decision influenced how individuals' preferred approach to energy and transportation use was translated through their actual decision making process. In general, for people with high levels of climate friendly action, it seemed easier to stick to their preferred actions for larger less frequent decision, like where to live or what kind of car to buy. This may be because these decisions generally require more thought and so may be more likely to trigger one's overall values. And, people may feel it is more important to follow their values in big decisions because it helps "set themselves up" for following those values on a daily basis.

I also found that variety in seemingly similar values helped to explain potentially unexpected differences in personal energy and transportation behavior and in preferences for society's overall approach to climate change. For example, it might seem odd that an individual

with strong pro-environmental values did not support implementing a totally clean, low carbon, renewable energy source. However, this became more understandable based on the fact that his environmental values focused on eliminating human interference with non human species, something he feared would increase with an infinite energy source regardless of its lack of emissions. This underscored the importance of understanding the nuances of individuals' values and beliefs to understand how they influence behavioral choices.

All of these findings provide useful insights into understanding people's personal energy and transportation actions as well as their beliefs about climate change and how society should address it. The following chapter explores how my findings might be useful in understanding and encouraging climate friendly behavior beyond this study. It also explores how my findings compare to previous literature on climate friendly and environmentally friendly behavior.

CHAPTER 6: CONCLUSIONS AND RECOMMENDATIONS

When I began this study, I had two primary goals. First, I wanted to gain a better understanding of what motivated people to engage in climate friendly actions (or not), particularly their choices about personal energy and transportation. Second, I wanted to understand if this knowledge could be translated into tools or recommendations for encouraging more people to engage in climate-friendly actions.

In this chapter I review how my study meets those goals, and I explore how my results build on existing research. First, I review my original research questions and summarize how my study addressed those research questions. Next, I review how my results compare to past research and add to our understanding of climate friendly and pro-environmental behavior. Then, I provide recommendations for applying my findings to encourage individual's to choose more climate friendly behaviors. I conclude this chapter with a discussion of limitations of this study and recommendations for future research.

Addressing my original research questions and summarizing key results

When I began this study, I developed five research questions to help meet my overall goals of understanding climate friendly behavior and encouraging climate friendly action. In this section, I briefly review how my results address my original research questions, and in so doing summarize my key results. Each of the results discussed below is described in more detail and with supporting evidence in the Idiographic and Nomethetic analysis chapters. But it is useful to review them here to summarize my key findings and evaluate how my study addresses my original research questions.

1. What motivates people's personal transportation and energy use action - individual behaviors that are primary contributors to climate change?

Overall, I found that values and social influences, particularly social networks and movements, were important motivators for most of my interviewee's decisions about personal energy and transportation. Many interviewees were motivated to engage in climate friendly actions by pro-environmental values. But I also found that people's values about consumption and social justice played an important role in their personal energy and transportation actions.

Interestingly, I found that people define seemingly similar values very differently and that these different definitions have important impacts on their behavioral choices. For example, there was a lot of variety in how interviewees defined their pro-environmental values, which led them to take different actions to support those values. I found that saving money, or financial incentives, played a role in most interviewees' energy and transportation decisions, but this was not a central motivation for anyone who engaged in high levels of climate friendly action. Furthermore, as described in more detail in response to my second research question below, I found that these more "psychological" motives, helped people develop an overall, preferred approach to personal energy and transportation actions, but that other factors often mediated these motives in individuals' actual decisions about actions.

2. Do individuals' decision making processes about personal energy and transportation actions help to understand the often-found gap between behavioral intentions and behavior?

One of my most interesting findings was that people's actual decision making process is very important for understanding their personal energy and transportation actions, and that this decision process does help to explain the 'intention-action' gap. Most of my interviewees had a preferred approach to personal energy and transportation actions – often based largely on their key values – but other factors regularly came into play in their actual decision making process. In many cases, people ended up compromising on their preferred approach to energy and transportation actions during their actual decision making process. The most common reasons for compromise were requirements of one's lifestage, such as needing to transport small children by car instead of walking or biking, and competing desires, such as wanting to give one's family the things they want. I also found that people whose self identities were strongly based on their values were more likely to act on those values, even when competing factors entered into their actual decision making process. People who regularly engaged in very conscious, intentional decision making about personal energy and transportation also were more likely to act on their values and/or preferred approach to these actions. Finally, I found that people's preferred approach to energy and transportation actions was more likely to survive their 'in the moment decision' process for major decisions like where to live or what kind of car to buy than for small day to day decisions.

3. Do people consider climate change when making decisions about personal energy and transportation*?*

Interestingly, my results suggest that climate change is not an important motivator for or element in people's decisions about personal energy and transportation. I found that people generally do not believe that climate change will have major negative personal impacts. However,many people do think that other people and species will be negatively impacted, and for some, these impacts to others were important motives. In addition, even when I 'forced' climate change to be personally relevant by linking it to negative local impacts, my interviewees were not motivated to reduce climate change in an effort to reduce those personally negative impacts. In most cases, people were not motivated by climate change, because they did not feel that their small personal actions would have much impact on the large, global issue of climate change.

4. Do differences in beliefs about climate change help to explain why some people engage in high levels of climate friendly actions and others do not?

Given that climate change itself was not a very strong motivator for most people's personal energy and transportation actions, I do not think that differences in beliefs about climate change provide much insight into why some people engage in higher levels of climate friendly actions. It was true that interviewees who had more 'pro-climate change beliefs' such as believing in human causes, having higher knowledge about it, and having high levels of concern about it, did engage in higher levels of climate-friendly behaviors. However, their beliefs about climate change were not the primary reason for their climate friendly actions. Instead, these 'pro-climate change beliefs' seemed to be related to having strong pro-environmental values, which in turn did motivate personal energy and transportation actions with lower climate impacts.

5. What can these findings tell us about how to encourage more individuals to engage in personal energy and transportation or other actions that help to reduce climate change?

I believe that my findings do provide information that can be used to develop tools and strategies to encourage more people to engage in climate friendly actions. I discuss this in detail later in this chapter in the section on appliedrecommendations.

Relationship to past literature

As described in the Literature Review chapter, the vast majority of past research on individuals' motives for climate friendly actions and pro-environmental action in general, as well as research on climate change perceptions and beliefs, has come from the psychometric paradigm. As such, it has tested pre-determined models of pre-defined variables against data gained through surveys and analyzed with inferential statistics. Based on my assessment of gaps in previous literature, I used a different approach. I did not develop or test a specific model or measure predefined variables. Instead, I used in-depth interviews and analysis. Based on this difference, it is a little more difficult to compare my results back to the models and psychological constructs or variables used in previous studies precisely because I did not operationalize and measure them. Also, I did not ask interviewees about any specific constructs, so they did not always provide all the information needed to clearly differentiate closely related constructs like attitudes, values, identity, and personal norms. Therefore, in many of the comparisons to past literature that follow, I have tried to fit interviewees own words and understandings back into pre-defined constructs. Even with the differences in research paradigm and methodological approach, my results still provide useful comparisons and contributions to past research.

Support for previously developed theoretical models of behavior

No single previously developed model for understanding pro-environmental and climate friendly behavior is fully supported by my results. Instead, my results suggest that some of the individual constructs used in previous models, especially values, social factors (though not precisely social norms), and feelings of self efficacy or behavioral control, are important motivators, but they do not seem to work in exactly the same combinations or relationships proposed in previously developed models. I discuss how my results support or contradict the role of individual factors used in previous studies below.

Even though my results do not entirely support any previous model, I think it is worth noting that my results provide general support for several ideas captured in the Theory of Planned Behavior (TPB). I focus on this model because it is a very widely used model for understanding individual behavioral choices and because it is the model that I believe is most aligned with my results.

First, my results support that individuals do seem to have a preferred approach to personal energy and transportation behaviors, which is largely predicted by some important internal psychological factors. This aligns generally with the TPB idea of predicting behavioral intentions and the recognition that behavioral intention is an element of, but is not the same as predicting actual behavior. Furthermore, as described in more detail later on in this section, my study provides some interesting insights into why there is a gap between behavioral intentions and behavior, and how the antecedents for behavioral intentions are mediated in people's 'in the moment' decision process that separates intentions from actions.

The psychological factors I found to be important in motivating behavior intentions do not align precisely to the TPB. I found that values were one of the most important factors motivating personal energy and transportation actions, while the TPB focuses on attitudes. The TPB does suggest that values are an antecedent to attitudes. Given the format of my study did not specifically address individual's attitudes towards personal energy and transportation behaviors, my finding that values are important does not directly contradict the TPB. However, it does call into question the TPB's focus solely on attitudes without including the antecedents to those attitudes.

Also in general agreement with the TPB, my results suggest that perceived behavioral control is important. In the case of climate friendly behaviors, people's perception that they cannot control climate change with their behavior is a central reason why they are not motivated to engage in climate friendly actions for the purpose of reducing climate change (they do them for other reasons, but generally not to reduce climate change). This is not quite the same as the TPB's definition of behavioral control, which focuses on individual's perception of if they can perform a given behavior or not. However, my results do support the concept that individual's behavioral choices are influenced by their perceptions of their ability to control the outcomes of those actions. It may be worth expanding the TPB's definition of perceived behavioral control to include this element.

Finally, my study provides mixed results about the importance of social norms, as defined in the TPB. I did not find that social norms, defined as a feeling that important others believe one should act in a given way, was an important motivator for individuals' with high levels of climate friendly action. However, several moderate- and low-level actors did mention that feeling overall social support for climate friendly actions influenced them to engage in these

actions. This perceived social norm was not a primary motivator for anyone, but it was a secondary motivator for climate friendly actions of moderate- and low-level actors.

Instead of social norms, as commonly defined in social psychology, I found that being a member of a social network that supports one's values and preferred approach to personal energy and transportation actions was an important motivator. It reinforced people's preference to engage in climate friendly actions and it encouraged people to translate their value-based behavioral preferences into actions (e.g. to cross the 'intention-behavior gap'). The key difference between my findings and the TPB approach to social norms was that high level climate friendly actors in my study did not have an 'injunctive' feeling that others thought they should act a certain way. Nor did they mention being influenced by the feeling that others wanted them to or would approve of their acting in a certain way. Instead, they seemed motivated simply by the camaraderie and the overall support of having friends and group members who were engaged in similar kinds of action.

The issue of climate change and individuals' perceptions about it

One of my more interesting results was that the issue of climate change and its possible personal impacts did not motivate climate friendly action. Many previous studies have focused on the issue of climate change or individuals' perceptions of and knowledge about it to try to understand their willingness to engage in climate friendly actions or to support climate change reduction policies. My study suggests that this focus may be misplaced. In this section I address how my results compare to previous research on how individuals' perceptions of climate change relate to their climate friendly actions.

Risk perceptions

Previous research has assessed if individuals perceptions about the riskiness of climate change is related to their willingness to engage in climate friendly actions and to support climate change reduction policies. Many studies have found that Americans do not think climate change is highly risky, especially personally risky (Nisbet and Meyers, 2007; Leiserowitz, 2006; Lorenzoni et al., 2005; Seacrest, 2000; Leiserowitz, 2006; Lorenzoni and Leiserowitz, 2006; Weber, 2006). Studies have also found that people's values influence their perceptions of the riskiness of climate change (Leiserowitz, 2006; Kahan, 2011; Brody et al., 2008). For example,

people with egalitarian and altruistic values believe that climate change will be more risky than people with hierarchical and egocentric values. Some studies have found that people who believe climate change is riskier are more likely to express willingness to act to reduce it (Leiserowitz, 2006; O'Connor et al., 1999; Lubell et al., 2007). But this finding is not consistent (Whitmarsh, 2009).

In my study, a little over half of the interviewees were highly concerned about climate change and believed it would have significant negative impacts, which is similar to having high overall risk perceptions, though not perceptions of personal risks. A much higher percentage of people had high overall risk perceptions in my study than has been found in previous survey based research. My results generally support the finding that values influence people's concern about or perception of the overall riskiness of climate change. All of my interviewees who were concerned about climate change also had strong or moderate pro-environmental values. However, very few of my interviewees felt climate change would have significant negative personal impacts. This supports the finding of many previous studies that people do not think climate change will be personally risky. My results do not support the finding that people who think climate change will be risky, either personally or in general, are motivated to reduce climate change due to this perception of risk. Instead, people who felt that climate change would have negative impacts in their lifetimes or even to themselves were generally not motivated to take action to reduce climate change by this feeling of risk because they felt that their individual actions would not be successful in reducing climate change. This suggests that risk perceptions only influence behavior when people feel their actions will actually reduce the risk. Future research on risk perceptions might more effectively predict willingness to action to reduce risk if it includes an assessment of people's perceptions of their ability to reduce the risk by taking action.

Personal relevance

Previous research, much of it associated with research into risk perceptions, has proposed that people may be more willing to act to reduce climate change if they believe that the issue is personally relevant (Lorenzoni, 2006; Leiserowitz, 2006; Lorenzoni and Leiserowitz, 2006; Weber, 2006). From a risk perception point of view, climate change should be personally relevant if people believe it will have negative personal impacts. Another approach to determining if climate change is personally relevant comes from involvement theory. Under this

approach, climate change is personally relevant if it connects to people's core values, they seek and process information about it, and they make more careful decisions about it (Petty and Cacciopo, 1990). In theory, making climate change more personally relevant could be a way to increase individual action to reduce it.

As described above in the context of risk perception, my interviewees did not feel that climate change is personally relevant in the sense that it would impact them personally. However, even when I forced it to be personally relevant by outlining impacts that may happen in the relatively near future where they live, it did not make interviewees any more motivated to take action to reduce it. While everyone admitted that those impacts would have negative consequences for them personally, most downplayed their importance compared to the worse impacts to other species and people. In addition, they were not motivated to try to reduce those impacts by engaging in climate friendly actions because they did not think their actions would stop the risk.

Several interviewees were "involved" in climate change, in the sense that they thought about it a lot, processed information about it carefully, and connected it to their core pro-environmental values. In addition, all of these "involved" individuals engaged in a high level of climate friendly action. However, even for these interviewees, climate change was not a main motivator for their climate friendly actions mainly because they did not think their individual actions would do much to stop climate change. This suggests that trying to make climate change more personally relevant may not encourage action to reduce it unless people also believe that their individual action will be successful in reducing climate change.

Knowledge about climate change

Previous studies have found that knowledge about climate change is an important motivator for taking action to reduce climate change (Bord et al., 2000; Fortner et al., 2000; Krosnick, 2006; Sunblad et al., 2007; Dimond et al., 2007). This makes sense given that people who know more about climate change will have a better understanding of what actions will be effective in reducing it and may have a stronger sense of personal responsibility and, therefore, sense of moral obligation to reduce it. I found that greater knowledge of climate change, and other 'pro-climate change beliefs' including belief in human causes and high levels of concern about it, were correlated with higher levels of action. However, for my interviewees, these beliefs did not seem to be the root cause of their motivation. Instead, these beliefs were associated with pro-

environmental values, which were a more important motivator for climate friendly action. Since most people in my study were not engaging in climate friendly actions specifically to reduce climate change, their knowledge of and beliefs about climate change generally were not central to their decisions about actions.

Self efficacy and collective action

Climate change is a clear example of a collective action problem: the costs of acting to reduce it are born by the individual, while the benefits of that action are shared by all (Lubell et al., 2007). My results support previous studies that have found people do not take action to reduce climate change because they do not feel their individual actions will have much impact (Lubell, 2007; Brody et al., 2008; Kellstedt et al., 2008). In addition, my results support the "collective interest model" which proposes people will not take action on collective action issues when they believe the costs of inaction or the risks associated with the issue are low, the individual and group benefits of action are low, the chances of individual and group success are low, and the personal costs of action are high (Finkel et al., 1989). My interviewees generally felt the personal risks of climate change were low and their chances of success in reducing climate change through their individual actions was very low. And, even though many interviewees engaged in high levels of climate friendly actions, they were not motivated to do so by the possibility of reducing climate change itself. The collective nature of climate change and the individual's lack of self efficacy in being able to reduce it through their individual actions was the primary reason that climate change was not a significant motivator for climate friendly actions for the vast majority of my sample.

Another element of collective action/self efficacy theories is that people are less likely to take action on collective action problems when they believe that others are not taking similar actions and therefore are "free riding." Interestingly, no one in my study mentioned the issue of free riding as a reason for not engaging in climate friendly actions.

It is interesting that so many of my interviewees were motivated to engage in climate friendly actions by a general desire to protect the environment, when they were not motivated by reducing the specific issue of climate change. Protecting the environment is also a collective action problem. It seems equally difficult for one's individual actions to make a substantial contribution to improving the overall environment. However, interviewees only mentioned feeling a lack of self efficacy about climate change. This suggests that climate change is

somehow different from other environmental issues and environmental protection in general in causing greater feelings of individual powerlessness. This finding deserves further research.

Other psychological constructs

Values

My study supports the finding of much previous research that values play a central role in how people think about climate friendly and pro-environmental behaviors and why they engage in them (Schwartz, 1994; Poortinga et al., 2004; Schultz, 2005, Cordano et al., 2011; DeGroot and Steg, 2010; Van der werff et al., 2013a; Klockner, 2013; Dietz et al. (2007); Leiserowitz (2006); Kahan (2011); Dietz et al., 2005; Schultz et al., 2005; Clark et al., 2003; Dunlap et al., 2000). The importance of values in my study is even more interesting given that I did not directly ask interviewees about their values. Instead, they chose to talk about their values as part of their explanation of how they approach personal energy and transportation actions and the issue of climate change.

Like many previous studies, I found strong support for the idea that biospheric or pro-environmental values motivate higher levels of climate friendly action. In fact, pro-environmental values were an important motivator for 10 of 12 of the high-level actors in my study. In addition, I found that social justice values were important motivators for climate friendly action. The social justice values I found in my study are very similar to the human altruism values in the frequently used approach to pro-environmental values that includes biospheric/biocentric, altruistic/ human altruistic, and egocentric values and to the self transcendence and communitarian/egalitarian values used in "Schwartz" type value systems. I also found that people who engaged in low levels of climate friendly actions were generally more motivated by their own comfort or other "individual" benefits, which matches up well with the egocentric value and the self-enhancement value used in other studies.

However, unlike most previous studies that use environmental or Schwartz-type values to predict pro-environmental behavior (Dunlap et al., 2000; Dietz et al., 2005), I found that values about consumption and community were also very important for understanding climate friendly action. First, I found that consumption related values, specifically beliefs that society should be less consumption focused and/or a dislike of the capitalist system were important in motivating

climate friendly actions. Consumption values have not been addressed in most previous studies of values and pro-environmental behavior. Though, I think the importance of consumption values makes sense given that many pro-environmental behaviors are often decisions about how much and what to consume. I think this finding is new and worth further investigation.

I also found that people often linked the issues of community and consumption into a single value system focused on reducing consumption by building physically denser and more walkable communities as well as more socially connected communities. For all of my interviewees who had strong values around this kind of dense and connected community they were primary motivators for high levels of climate friendly action. These community-related values may be similar to the communitarian and egalitarian values used in Schwartz-type value systems. However, the Schwartz values are as much focused on altruism as on valuing a certain kind of physical and social community. Therefore, I believe my finding is somewhat different from previous work on values and deserves more investigation.

I also found that there was a lot of variety in how individuals' define seemingly similar values. For example, people had very different definitions of their own environmental values, and these differences led them to take quite different personal energy and transportation actions. Previous psychometric studies, on the other hand, assess predefined and generally broad pro-environmental values and do not address differences in how individual's define or prioritize elements of their pro-environmental value system. I believe this finding is another unique contribution of my study. It helps to explain why there is often a gap between individuals' values and their actions in survey research where values and what constitutes pro-environmental action are predefined for respondents. I think the issue of variety in individual definitions of values and the actions they motivate also deserves more study.

Even though I found that values were one of the most important motivators for individual's actions, there was not a one-to-one connection between values and actions. Even the most climate friendly actors in my study described times when they did not choose to follow the values that led them to those climate friendly actions. Instead, other factors overruled their values in their behavioral decision process. This a key finding for understanding why values and other psychological models don't explain all that much variance in actual action. I describe this in more detail below in the section on the action decision making process.

Environmental Self Identity

Previous studies have found that environmental self identity is an important factor in explaining individual's pro-environmental behavior (Stets and Biga, 2003; Van der werff et al., 2013a and b). Studies have also tried to tease out the relative impact of environmental values and environmental self identity on individual's pro-environmental behavior and found that values predict an environmental self identity, which in turn predicts pro-environmental behavior (Van der werff et al., 2013a). Though I did not specifically ask people if they felt that protecting the environment was an important part of their identity, some interviewees' responses suggest that this was a part of their identity. Furthermore, people who seemed to have a strong sense of environmental self identity were engaged in higher levels of climate friendly action. In addition, I found that having a strong environmental self identity helped people get over the 'intention-action gap.' Specifically, people who had a strong environmental self identity were more likely to act on their values-based preferred approach to personal energy and transportation actions (which is similar to behavioral intention). In my study, it seemed that an environmental self identity seemed to help people keep their values and preferred actions in mind through the 'in the moment' action decision making process.

Personal norms/moral obligation

Personal norms, or a feeling of moral obligation to engage in pro-environmental behavior, have been found to correlate with higher levels of pro-environmental behavior (Harland et al., 1999; Wall et al., 2007; Van der werff et al., 2013b; Klockner and Mattheis, 2004; Krosnick et al., 2006). My results provide mixed support for the importance of personal norms or moral obligation. In some cases, individuals clearly felt guilty for their impacts on the environment and/or climate change. And this guilt did in some ways seem to motivate people's climate friendly actions. However, they mentioned guilt more often in the context of times when they chose not to take pro-environmental actions that aligned with their values rather than as a motive for when they did engage in climate friendly behaviors. This suggests that many interviewees were aware of the consequences of their actions (a theoretical precursor to forming a personal norm). However, it did not seem like guilt was a strong motive for actual pro-environmental behavior. Instead, many interviewees focused on how engaging in climate-friendly action made them feel good about themselves rather than something they felt obliged to do or did out of guilt. This is a subtle but potentially important difference. It leads me to believe

that positive feelings of acting on ones values and/or acting in accordance with one's environmental self identity may be stronger motivators than feeling moral obligation or guilt.

Social factors

As described previously, in the context of how my results relate to the Theory of Planned Behavior, I did not find that injunctive social norms, or pressure to do what other people think you should do, were a very strong motivator for high levels of climate friendly action. This is in contradiction to previous studies that have found social norms to be important in explaining pro-environmental behavior (Stern, 1992; Klockner, 2013). To the contrary, I found that many people who had high levels of climate friendly action actuallyfelt there were social norms or social pressure against their climate friendly actions. On the other hand, several interviewees with moderate and lower levels of climate friendly action did recognize overall social support or pressure for pro-environmental energy and transportation actions. And, this was an element of their motivation for the climate friendly and pro-environmental things they did.

Instead of traditional social norms, I found that social networks were more important in motivating climate friendly actions. This supports studies that have found social networks can influence environmental values and pro-environmental behavior (Tindall, 2002, Tindall and Harshaw, 2005; Schuett, 2011), and the few studies that have assessed the role of social networks in motivating climate friendly actions in particular (Robelia et al., 2011; Jager, 1993; Herring et al., 2007). For example, membership in a social network of other environmentally-minded people was a primary motivator for several high-level actors in this study. In addition, people seemed more likely to translate their values into actions when they had friends that supported their pro-environmental values and actions. This supports Kahan et al.'s (2012) findings that it is easier to express beliefs and take actions that are supported by ones social network.

Financial incentives/ saving money

Following an economic model of human behavior, many proposals for how to address climate change focus on providing financial incentives to encourage individuals to change their behavior (Fankhauser, 1995). In my study, saving money or other financial considerations were mentioned by many interviewees as part of their personal energy and transportation use decision making process. However, it was not a primary motivator for any individuals with high levels of climate friendly action except for Crystal, who held frugality and careful allocation of financial

resources as core value. On the other hand, saving money was a primary motivator for many moderate- and low-level actors. And, it was a secondary consideration for some high-level actors. My results provide some support for the motivating power of financial incentives, especially for lower levels of climate friendly action, and/or for people who do not have strong values that support these behaviors. However, my results also support the finding that internal motivators may be important for encouraging high levels of climate friendly behavior change than financial incentives (DeYoung, 1993, 2000).

The action decision making process

Most previous studies of pro-environmental and climate friendly behavior focus on predicting behavior intention, which is clearly not the same thing as actual behavior. Even studies that do try to explain actual behavior do not generally address individuals' 'in the moment' action decision making process. Instead, most previous research has assessed the impacts of longer-term internal psychological process and constructs on behavioral intention and behavior. I found that individuals' personal energy and transportation actions were usually the result of a (at least) two part process. On the one hand, interviewees thought through their preferred approach to these issues, which was largely influenced by major psychological processes like values, identity, and social factors. But they also made actual 'in the moment' decisions (some daily like whether to drive or bike that day, some less frequent like what kind of car to buy). In this decision process, other factors came into play that sometimes overruled their preferred approach to energy and transportation use. The factors that enter into this 'in the moment' decision making process usually show up as unexplained error in psychometric based studies. However, understanding it is very helpful in understanding the 'intention-behavior gap' found in many previous studies (Kollmus, 2002). My results suggest that focusing more on individual's actual decision making process would do a lot to help explain what happens between behavioral intentions and the psychological constructs used to predict it, and actual behavior.

I found that lifestage, such as being a parent with young children vs. being an empty nester, was a key factor influencing this 'in the moment' decision making process. For example, most of my interviewees with small children ended up compromising on their preferred approach to personal energy and transportation, which was largely motivated by their values, due to the realities of having kids. Lifestage was also a factor for college students. For example, college

students tended to be less focused on home energy because they were renters and had less control over home energy issues. I also found that structural realities, such as the lack of availability or lack of convenience of mass transportation, influenced this 'in the moment' decision making process. These kinds of factors do not show up in social psychology models but were really important in my study. This suggests that future research should focus more on individual's actual decision making process to better understand their final behavior choices.

My assessment of individual's 'in the moment' decision making provided support for previous studies that have found habit is an important element in explaining people's pro-environmental and climate friendly behavior. Several interviewees mentioned that they had made habits out of their overall values to drive less and use less energy and that this made it easier for them to do these things on a daily basis. On the other hand, I also found that many people with high levels of climate friendly action did not just fall back on habit and make quick decisions. Instead, they considered the environmental impact of their transportation and energy decisions on a daily basis more consciously and regularly than people with lower levels of climate friendly action. This again suggests that future research should focus more on individual's 'in the moment' decision making process to see if this theme of conscious decision making is related to more environmentally friendly actions in a larger sample of people.

Usefulness of overall approach

My results also support the fact that a qualitative approach based on in-depth analysis of detailed interview data provides a useful complement to traditional psychometric survey based research. Some of my key results may not have appeared in a survey. For example, it may not have been clear that people have a lot of variety in how they define seemingly similar values, like environmental values, and that this has significant effects on their behavior choices without the in-depth understanding and interconnections gained from a careful analysis of interview data. Similarly, a survey may never have revealed the importance of consumption values, and their connections to beliefs about community, which proved to be an important motivator for many of my interviewees. Furthermore, my finding that values and other factors are mediated through individual's more 'in the moment' decision making process, and therefore often are not reflected in their ultimate behavior choices likely would not have been revealed using a less "respondent-led" research approach. Overall, the results of my study suggest that increased use of this

research approach in conjunction with psychometric research will lead to a better understanding of motivators for pro-environmental and climate friendly behavior.

Recommendations for implementation

My primary goal in undertaking this study was to gain a better understanding of what motivates individuals to take actions that reduce climate change. I focused on personal energy and transportation actions because these are individual actions that can have a significant climate impact. While I was interested in the role that climate change itself played in people's decisions about energy and transportation, I sought to understand why individuals engage in climate friendly actions (or not) regardless of whether or not reducing climate change was part of their motivation. Furthermore, I hoped that the understanding I gained would shed some light on opportunities to encourage individuals to engage in more climate friendly behaviors that could be applied in society. Climate change is an urgent and challenging problem. As such, it seems important to try to provide applications in addition to ideas on further academic research. In this section, I discuss how my results might be applicable in climate change reduction initiatives. In developing the ideas presented below, I've tried to develop some "out of the box" and creative recommendations for how my results might be used to help encourage individuals' to engage in climate friendly action in addition to supporting some of the recommendations that appear more commonly in academic research.

One of my key findings is that individuals' decisions about personal energy and transportation actions occurred in (at least) two stages. First, people had a preferred approach to energy and transportation use, which was largely based on values and social factors. But, people's actual personal energy and transportation actions were the results of an 'in the moment' decision making process in which their preferred approach was often mediated by other factors such as issues resulting from their lifestage, conflicting desires, or failure to keep their more-values based preferences top of mind. Therefore, I have organized this section into two parts: first, I explore things that may encourage individuals to make their background, preferred approach to personal energy and transportation use more climate friendly and second, I address things that might encourage individuals to choose more climate friendly actions 'in the moment' of their actual decision making process.

Encouraging individuals to make climate friendly actions their preferred approach to personal energy and transportation use

Leverage values

Like many previous studies, I found that values were a key motivator behind individuals' preferred approach to personal energy and transportation actions. Encouraging people to develop values that support climate friendly behavior is difficult. Values are formed over a lifetime and tend to be resistant to change. However, given their importance in motivating climate friendly actions, it is still worth recommending efforts to encourage people, especially young people who are still forming their value systems, to develop these values.

Not surprisingly, pro-environmental values were one of the most important motivators for people who engaged in high levels of climate friendly action. Many climate change reduction programs already attempt to connect to environmental values by framing climate change as an important environmental issue. My results support continuing to do this.

Increasing pro-environmental values may be a long-term cultural shift that requires starting with children and working over the course of generations, but it is still worth doing. Interestingly, the younger environmentalists in my study connected the issue of climate change to their pro-environmental values, were more involved in the issue of climate change, and were more motivated by reducing climate change than the older environmentalists. Also, all of the younger college-aged people in my study felt an overall social movement towards green values and felt it was more accepted and encouraged to engage in pro-environmental behavior. This may reflect that pro-environmental values are already more prevalent in younger generations.

I also found that concerns about social justice were an important motivation for climate friendly actions. This suggests that efforts to reduce climate change should try to connect to and/or activate social justice values and focus on how engaging in climate friendly actions will benefit poorer and less powerful people as well as benefiting the environment. This may encourage more people to engage in climate friendly action and/or provide additional motivation for those actions.

Finally, I found that consumption related values were also important motivators for climate friendly action. This included beliefs about the need for cultural change away from

capitalism and a consumption-focused society. But it also included values of not wasting and consuming efficiently. Based on this finding, it might make sense to focus communications about climate friendly actions on the fact that they can help people follow their preferences for efficient consumption and not wasting. This could be especially important for motivating climate friendly actions in people who do not have strong pro-environmental values and/or people who do not currently engage in high levels of climate friendly action. In my sample, a preference for not wasting and consuming efficiently was one of the few ideas that was consistent across nearly all interviewees regardless of their values or level of climate friendly action.

Do not mention Climate Change

It may seem odd to recommend not mentioning climate change as a way to encourage climate friendly action. However, one of my key findings was the fact that climate change itself is not motivating, even to most people who have strong pro-environmental values and engage in high levels of climate friendly action. Instead it seems more useful to focus on the climate friendly actions themselves and connect them to values and other factors that people do find motivating. For example, communications about personal energy and transportation use could focus on more general environmental benefits rather than climate change specifically. For example, communications might focus on how climate friendly actions benefit individual species, ecosystem functions, or help to protect the overall beauty of nature without dwelling on the issue of climate change. People in my study were motivated to engage in climate friendly behavior by these other kinds of environmental issues even when they were not motivated by climate change. In addition, communications could connect to other values that support climate friendly actions (as described above) such as people's social justice values by focusing on how (high carbon) energy sources or transportation emissions impact lower income and less powerful groups.

Previous studies have recommended trying to make people understand how climate change will impact them personally as a way to encourage them to take action to reduce climate change. My results suggest that this would not be highly effective. First of all, it could be hard to do. In my study as well as most previous studies, most people do not think climate change will have significant negative personal impacts (even though they do think it is happening and will have negative impacts in general). So, trying to convince people climate change will have harmful personal impacts may be a challenge in itself. Furthermore, even if it is possible to make

people believe this, it may not help. For example, even though all 21 of my interviewees admitted that the likely impacts of climate change in their local area would have a negative impact on their overall quality of life including recreation opportunities AND they all said that outdoor recreation was an important activity in their lives, not one interviewee said that they would be more likely to engage in climate friendly action as a way to forestall these personally relevant impacts. Instead, interviewees would adapt, move somewhere else, or travel more (and produce more carbon emissions) to gain access to recreation.

My results suggest that people were not encouraged to reduce climate change to forestall personally relevant impacts because they realized their small individual actions would not be enough to stop climate change and, therefore, its local impacts. In addition, several people noted that personal impacts like a loss of recreation opportunities were relatively unimportant compared to the devastating impacts people in other countries or with less ability to adapt would face.

Harness the power of social networks

One of my more interesting, and I believe hopeful, results is the potential power of social networks in encouraging climate friendly behavior. Being a member of a social network focused on climate change and/or generally pro-environmental living was a primary motivator for several of my interviewees. For these people, it was highly motivating to have friends and a social community that was interested in environmental issues. And, it was inspiring to see and learn from the climate friendly things other people were doing. They said that this social connection helped them learn about new green actions to take, made these actions more fun to do, and kept them engaged in continuing to do them. Interestingly, they were three of the younger interviewees, which may mean that this power of social networks is of increasing importance for the generations that are in, or are about to be entering, their prime consuming years for energy and transportation. In addition, several interviewees who engaged in moderate levels of climate friendly action (also some of the younger interviewees) noted that they felt a growing social movement towards being green and that this inspired their own climate friendly actions. Two younger interviewees also suggested that growing social networks around climate friendly action would be the most successful way to address climate change at a societal level because they thought that hearing about the issue and ways to reduce it from friends would be more impactful than learning from media or other non-personal sources. Based on this finding, I recommend

intentionally fostering social networks around climate friendly actions as an important way to encourage these actions.

Not only will social networks build on the motivating sources noted by my interviewees as summarized above, they may also help to reduce one of the most important barriers against engaging in climate friendly action: feeling like one's individual actions won't make an impact on such a massive global problem. This lack of self efficacy around climate change and actions to reduce it was the main reason that my interviewees were not motivated by the issue of climate change. However, as part of a social network focused on climate friendly actions one would see that they are not just one person taking action, they would see that lots of other people are doing the same thing and, therefore, the total impact of all of their actions might be large enough to actually reduce climate change. Basically, a social network of climate friendly actors could help to illustrate how a lot of small individual actions add up to much bigger effects in reducing climate change and improving the environment.

These could be "real world" physical networks or online social networks like Facebook. In fact, one previous study that created a Facebook-based social network around climate change found that people did in fact feel that their actions mattered more when they were able to see that many others were also taking action (Robelia, 2011). This study found that participating in the online social network also increased people's climate friendly behavior. This study also noted that being part of a social network of climate friendly actors helped to reduce people's concerns about free-riding, or people gaining the benefits of others actions without taking the actions themselves.

Some other examples of this idea have already been applied and help to illustrate how such 'climate friendly' social networks might be started or communicated. For example, Ford Motor Company has built an online social network for customers of their battery electric vehicles (BEV) and plug-in hybrid vehicles (PHEV). Through this network, drivers can track the greenhouse gas benefits of their own electric driving but they can also see combined benefits of all the other Ford BEV and PHEV drivers. The online network also provides tips on lowering driving related emissions and allows drivers to communicate and compete to further encourage lower emissions "all electric" driving and other driving behaviors that reduce greenhouse gas emissions like accelerating slowly and charging vehicles at times when greener electricity is available locally. Walmart provides another example of a "social network" approach to

communicating the compiled benefits of lots of small actions. They ran an advertising campaign focused on their greener products in which a single Walmart shopper explained that "if all 200 million Walmart shoppers" bought this compact florescent light bulb, or recycled content vacuum cleaner, or detergent with less packaging, it would have "fill in the blank" large environmental impact. This again helped members of the 'Walmart shopper' social network to see the potential combined impact of their own small environmentally friendly actions.

Of course, there are problems with both of these examples. Obviously, it would be even better for the environment if people did not buy a car or a greener light bulb at all. But given that people likely will buy these products, convincing them to buy the greener option and use it in a greener way is helpful. These examples also make the point that corporations, even in the process of making a profit, can still help to advance the issue of reducing climate change. Again, it would be even better for climate change if Ford and Walmart and other companies didn't convince people to buy anything at all. But, given that people will continue to consume and that corporations will continue to have much more money to communicate with consumers than anyone else, it seems worth finding ways that they too can help to encourage more climate friendly consumption choices.

Focus on the positive

Previous studies have suggested that people engage in pro-environmental behaviors out of a feeling of moral obligation, or a personal norm. I did not find this to be a very important motivator for people in my study. Though many people mentioned having a feeling of obligation to perform climate friendly actions, and feeling guilty when they did not engage in them, this was not a primary motivation behind the times when they did engage in climate friendly behavior. To the contrary, people said they acted because it made them feel good rather than out of guilt or feeling of moral obligation. This suggests that communications about climate friendly behavior may be more effective if they focus on how the actions will make you feel good about yourself rather than trying to make people feel guilty about not choosing these actions. Similarly, communications may be more effective if they focus on the positive outcomes of climate friendly actions rather than the negative impacts of non-action.

Saving money

Many actual and proposed initiatives for encouraging individuals to reduce climate change focus on financial incentives and opportunities to save money. My results suggest that saving money may not be a strong motivator for high levels of climate friendly actions. But saving money was a primary motivator for moderate and low levels of action. In addition, virtually every interviewee mentioned saving money as some element of their reasoning for engaging in climate friendly actions, even if they only saw it as a small side benefit.

This leads to several recommendations about focusing on saving money to encourage climate friendly actions. First, it may not be an effective way to encourage major behavioral change or lifestyle changes toward lower environmental impact. In my study, big actions like buying a hybrid vehicle, building a super green house, or choosing one's home location to avoid driving were not motivated by saving money but by value systems that supported these actions. However, smaller and easier actions, taken by people who only engaged in moderate or low levels of climate friendly action like reducing home thermostats or taking the bus or walking when it was very convenient, were more often motivated by saving money. Importantly though, even in the case of these smaller actions, saving money was often still a secondary motivator. Nonetheless, given the regularity with which saving money was mentioned by interviewees, it likelywill not hurt to include saving money as an element of communications about climate friendly actions. Also, it may make more sense to focus on saving money in the context of smaller and easier climate friendly actions.

Encouraging individuals to choose climate friendly actions though their 'in the moment' decision making process

Many of the recommendations made above would also be relevant for encouraging individuals to choose climate friendly options in their actual behavioral decision making process. However, to be effective, initiatives aimed at individuals' decision process, rather than their background preferred approach to personal energy and transportation actions, have to be salient at the time of decision. For example, values are still important. But, the focus has to be on connecting to values that support climate friendly action at the point of purchase or decision. In addition to the things proposed above, new things also may make sense in the context of encouraging climate friendly action at the point of decision.

Connect to supporting values and identities

In my study, people did end up compromising on values that supported climate friendly action in their action decision making process. However, they also often decided to act on those values. Initiatives that help people connect to values that support climate friendly actions at the point of decision would be very helpful. This might include providing information that connects to relevant values at the point of purchase. For example, the Monterey Bay Aquarium has placed sustainable seafood buying guides in some stores. This not only provides a reminder to think about sustainability at the time of purchase, it also provides information to make it easier to make a sustainable choice. This approach could also include trying to connect with people's environmental self identity at the point of decision making. For example, a climate change focused non-profit might make a car key chain tag that reminded people that choosing an alternative to driving will make them feel good about themselves and help them be who they want to be.

Encourage conscious decision making

Another important result of my study was that people with higher levels of climate friendly action made more conscious decisions about personal energy and transportation than did lower-level actors. They did not fall back on habit or make the easiest choice in the moment. Instead, they consciously thought about their different options and how each decision would or would not support their key values on a daily basis and in multiple 'in the moment' decisions. It might be possible to encourage more people to engage in this kind of conscious decision making.

For example, the Monterey Bay Aquarium's sustainable seafood buying guide not only helps people connect to environmental values at the point of purchase, it also provides a decision guide that may help people make more conscious decisions. Climate change related organizations could develop similar decision checklists or guides for key personal energy and transportation decisions.

Another idea is to help people develop easy to remember decision mantras. As the parent of a two year old, I've seen the power of jingles and songs to encourage desired behavior. With two year olds, these tend to be songs about personal hygiene, how to treat others, or dealing with frustration. But the same concept might work with adults around personal energy and transportation behaviors. This is another area where corporations might be able to contribute to climate change reduction. In the same way that advertising jingles help us to remember which

orange juice to buy, they might also help to encourage more conscious choices about greener product options.

Structural changes

A final way to encourage people to act on their preferred approach to energy and transportation is to make the structural changes necessary to support easy adoption of their preferences. In my study, even people who did not have strong environmental values and those who did not engage in many climate friendly behaviors often had preferences for more climate friendly options. For example, many people said they would like to use mass transit, walk or ride a bike more often but they did not feel that the options were readily or conveniently available in their community. This suggests that there really is pent up support for local communities or even private developers who are willing to invest in more walkable, bikeable, and mass transit oriented communities and developments. These kinds of structural changes that make it easier to engage in climate friendly behaviors are not easy to implement, but they could go a long way towards encouraging more climate friendly decisions even among those who are not strong environmentalists.

Another approach to supporting climate friendly behaviors through changes to the structure of people's environment is to encourage individuals to set their own lives up to facilitate climate friendly decisions. For example, an environmental non-profit might focus their education and communication efforts on a few key decisions that are central to an individual's climate footprint like the size of their home (smaller), the location of their home (closer to bike paths, mass transit and walking distance to key locations), major home energy systems (like efficient appliances, insulation, or advanced technologies like solar panels), and vehicle purchases (more fuel efficient or choosing to be a one car family). By focusing on encouraging climate friendly decisions in a few of these major decisions, when people are more likely to be making conscious decisions and considering their key values, it could be possible to significantly reduce both individuals' carbon footprint and their need to think about it on a daily basis.

Focus on people with relevant values, but don't limit this to environmentalists

In my study, people with strong values that supported climate friendly actions were far more likely to actually engage in those actions. And, there were some people who did not seem

to have any values or other strong leverage points to encourage climate friendly actions. Based on this, my final thought on encouraging climate friendly actions is to focus on those people who are most likely to be successfully encouraged. This is kind of an obvious point. But one that I think is still worth making. Given limited resources, my final recommendation is to focus efforts at encouraging climate friendly actions on people who already do some actions or who have values that could support those actions. However, I think the results of my study provide additional insight into who these people might be. They are not just people with strong environmental values or altruistic values, which is where many previous studies have focused. People with strong values of frugality, efficient allocation of resources and not wasting, and people who believe in less car-dominated communities, are also good targets for pro-climate friendly action campaigns. For example, Crystal was not a strong environmentalist but she had very strong values supporting frugal consumption. Similarly, Rich, who was only a moderate actor, was very focused on not wasting and strongly supported more bikeable, walkable communities. He might be encouraged to engage in more climate friendly actions by initiatives that targeted these values.

Study limitations and recommendations for future research

My study yielded interesting and useful results, and provides an interesting contribution to existing research and to efforts to reduce climate change. However it also has limitations. My sample is probably the most important study limitation. First, my sample was small compared to many other studies. The benefit of this small sample size was that it allowed me to do an in-depth analysis of each interview, which revealed important interconnections and insights that contributed to the overall insight and usefulness of my study. However, a limitation of this sample size is that I could not include as wide a range of different types of people. For example, my sample lacked many strongly politically conservative individuals. It also was skewed towards people who engage in high or moderate levels of climate friendly action. Another limitation of my sample was its focus on a single community. I did this to allow for social factors to appear if relevant (which they did) and to "hold constant" some important structural influencers of personal energy and transportation actions like the availability of public transportation and the walk- and bike-ability of the community. However, this limits the potential applicability of my

results to other areas and kinds of communities. My study also did not specifically include people with different income and education levels. I did not ask interviewees about these issues and so I don't know if my sample has variety on these issues or not.

My results make a useful contribution to previous research and previous work to encourage individuals to engage in climate friendly actions. However, additional research would be useful to expand upon my findings. First of all, I believe that my results support continued to use of qualitative data collection and in-depth analysis to understand climate-friendly and pro-environmental behavior. My results provided insightful new information and nuances that I don't think would be easily discovered using a statistical, psychometric approach like the majority of previous research. I also recommend further research on some specific topics based on interesting findings in my study and to fill gaps left by the limitations of my study. These include:

- **Explore the role of social networks and social movements in encouraging climate friendly behavior.** Specifically, it would be interesting to assess if social networks are more relevant for younger people compared to older people. In my study, social networks were a primary motivator for some of the younger interviewees. It would be interesting to know if this trend continues in future research. It would also be worthwhile to assess the relative impacts of in-person communities compared to online communities. And, it would be interesting to address the value of social networks in encouraging climate friendly behaviors among people with different core values and with different levels of climate friendly behavior. This topic also lends itself to an experimental study. It would be interesting to build on the work of Roeblia et al. (2011) and track people's behavior and beliefs about climate friendly actions before and after participating in social networks developed intentionally to encourage these behaviors.
- **Explore the variety of values that motivate pro-environmental action.** One of the most interesting findings revealed by my in-depth qualitative research approach was that people define seemingly similar values differently, such as pro-environmental values, and that values other than pro-environmental and altruistic ones can motivate high levels of pro-environmental behavior. Based on this, I recommend further research into the variety in how people define environmental values, and how those differences influence different kinds of pro-environmental actions. While this research might initially be most effective

using qualitative methods, the results could be very useful in developing better psychometric values scales to improve the effectiveness of psychometric studies of pro-environmental behavior. I also recommend further study of people who engage in high levels of climate friendly action but who do not have strong environmental values. One of my recommendations was to increase society's environmental values. However, that is a long term and difficult task. Understanding more about people with high levels of climate friendly action that do not have pro-environmental values could help reveal other leverage points that could be used on people with non-environmental values to encourage climate friendly action.

- **Expand similar research to respondents that had limited representation in my sample.** For example, I recommend undertaking similar open-ended, qualitative research in other geographical communities with different structural opportunities for using climate friendly transportation and energy. It would also be worth expanding this kind of research to more people with conservative politically ideology, and to people from different income and education levels. Previous research has found that political ideology (Kahan et al., 2011; Krosnick, 2006; O'Connor et al., 2000), education (Krosnick, 2006; O'Connor et al., 2000; Jeager et al., 1993) and income (O'Connor et al., 2000; Jeager et al., 1993) may play an important role in pro-environmental behavior.
- **Explore people's decision processes**. My study revealed that people's 'in the moment' decision processes are central for understanding their behavioral choices, and that factors that enter into this decision process can help explain the 'intention-action' gap. This deserves more study. It would be particularly interesting to gain a better understanding of why some people engage in more conscious, intentional decisions about personal energy and transportation actions on a daily basis while others fall back on a more 'short cut,' and unintentional decision pattern.
- **Focus on high climate impact behaviors**. My study focused on personal energy and transportation actions because these are individual actions with a significant climate impact. However, I recommend additional research into specific behavioral choices that have the highest impact on individuals' climate footprint such as their vehicle choices, decisions about frequency of driving, and home purchase and location decisions. It would be particularly interesting to understand if motives or decision making processes for these

"high climate impact" behaviors are different from other behavior choices and/or if some leverage points are more effective than others to encourage climate friendly choices in these actions.

- **Test implementation recommendations**. Finally, I recommend more experimental studies that apply some of the recommendations for societalapplications from this and other studies. For example, future studies could use pre-and post test approaches to applications of messaging about climate friendly behaviors that leverage key values I found motivate these actions; that don't focus on the issue climate change itself; and/or that try to expand feelings of self efficacy by illustrating the larger effect of small behaviors by many individuals. Similarly, experimental design studies could focus on influencing people's 'in the moment' decision making such as providing point of purchase information that connects to key values and encourages conscious decision making.

Final conclusions

Overall, my study lends support to much previous research that has focused on the role of values, environmental self identity, social networks and social norms in understanding pro-environmental and climate friendly behavior. Also similar to previous studies, I found that people do not feel climate change is very personally risky or personally relevant. My study also supported the idea that people view climate change as a collective action problem and are not motivated to take action on it because they feel their actions will have very little efficacy in reducing the overall problem.

However, my study also provides some new findings that deserve further investigation. First, I found that people have significant variety in their understanding of values that are often lumped together and simplified in psychometric studies and that this variety is helpful for understanding differences in actions between people with seemingly similar values. Second, I found that values around consumption and community are very important in motivating climate friendly actions in addition to the more commonly used predictors of environmental values and egalitarian/communalist/altruistic values. Third, I found that social networks are more important than social norms in understanding climate friendly behavior. And, fourth, I found that most

people are not primarily motivated to engage in climate friendly actions by a desire to reduce climate change. In fact, people seem to view climate change as different from other major environmental problems. They see it as even more of a collective action problem and they feel even less self efficacy about being able to reduce it through individual action. These findings merit further research.

Like many previous studies, I found there was a gap between behavioral intentions and actions. However, I found that understanding individuals 'in the moment' decision making process helps to explain this gap. Specifically, I found that people often compromise on their preferred approach to personal energy and transportation (which is often values based) due to other factors that enter into their decision process. Lifestage, such as having a family or being a college student, and structural limitations were some of the most important reasons for these compromises. Understanding individuals' in the moment decision making process also deserves more focus in research seeking to understand motives for pro-environmental behavior.

My results suggest that it may be possible to encourage climate friendly actions during at least two points in people's behavioral decision process. First, it is possible to encourage their overall preferred approach to personal energy and transportation actions, which is often governed by core values and important social influences, to be more climate friendly. This could be done by encouraging pro-environmental values, but also by linking to less obvious value types including consumption related values and social justice values. Second, climate friendly action could be encouraged by influencing people's actual decision making process. This might include encouraging people to connect to core values that support climate friendly action at the time of decision and encouraging conscious and thoughtful decision making.

Encouraging the level of individual behavior change that will be necessary to forestall the worst impacts of climate change will be extremely difficult. Furthermore, the overall level of reduction in greenhouse gas emissions necessary will require major actions by businesses and governments, not just individuals. Nonetheless, I believe that my study illustrates that it may be possible to encourage individuals to engage higher levels of climate friendly actions and it illustrates some new and interesting leverage points for encouraging those actions.

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APPENDIX 1: INTERVIEW GUIDE

Phone call intro script
Hi, my name is Ali Dimond and I am a graduate student at the University of Montana. [Name of reference] recommended that I contact you to see if you might be willing to participate in an interview for my dissertation research. I am researching how people make choices about energy use, like transportation, electricity, heating their house, and what people think about energy issues. I think you would have a really interesting perspective on these issues that would really benefit my research. Would you be willing to participate in an interview about this?

I know you are really busy. But I would really appreciate this opportunity to understand your perspectives on energy use. Your responses will be completely confidential. All of your contact information will be destroyed as soon as the interview is completed. None of your contact information or other identifying information will be attached to your interview or used in the analysis. I expect the interview will take about a half an hour to an hour. We can hold the interview at a time and place that is convenient to you. I am happy to come to your house if that is convenient for you.

Interview Intro Script
Thank you so much for your time and willingness to talk with me today. As I mentioned when we set up this interview, I am researching how people make choices about energy use for things like transportation, using electricity, heating and cooling their house, that kind of thing. And, what people think about energy related issues. So, my questions will cover things like how you get around town, what kind of car you drive, how you use energy in your house. I'm also hoping to discuss your thoughts about energy issues and related environmental issues.

First, we just have to cover a little paperwork. The university requires that I have a consent form for these interviews. Basically it just describes what the research is about, what kinds of questions I'll be asking, who is directing my research, and the fact that all of your answers will be totally confidential. It also has some required things that aren't very relevant to this kind of research like if you might be harmed by participating and compensation for possible injury. The main things I wanted to point out are:

1. Your participating is totally **voluntary**. You do not have to answer anything you don't want to.
2. This will be totally **confidential.** None of your personal or identifying information will ever be attached to your interview. So no one will be able to connect your answers back to you in the interview transcripts, or my actual dissertation – not even me after I've done a few of these with my bad memory. You're responses will be files and analyzed under a very generic label like male, aged 35 or something like that.
3. I am hoping to **tape record** the interview, if it is ok with you. This is not so you're "on the record" on any of this. It's just so I can listen to you during the interview without trying to scribble down notes madly on everything you are saying and so I can really think deeply about what you had to say after we are done. I'll destroy the tape as soon as I transcribe the interview. Also, I can turn the recording off at any time if there are things you don't want to be recorded. And, no identifying information will be connected to the transcript. Would it be ok with you if I record this?

So I'll just give you a second to take a look at this and sign it if you are willing.

Interview Questions

Introduction questions
I'm hoping to start by getting to know you a little.

#	Question	X
1	How long have you lived here? What made you decide to move to Missoula [or other town if relevant]?	
2	Where did you grow up? (if not Missoula)	
3	Tell me a little about your family. Do you have family in the area?	
4	How do you like to spend your free time?	
5		

Transportation questions

As I said in the beginning, I'm hoping to learn about how people make decisions about transportation and energy. So let's get started on that.

#	Question	X
6	How do you get places around town, like how do you transport yourself? [Probe on different kinds of transportation - do you ride a bike at all or use the bus, or walk]?	
7	Can you tell me about your car?	
8	What appealed to you about this car?	
9	Did the gas mileage of the car play into your decision at all? Why? Did financial considerations impact your decision? How?	
10	If you were going to buy a new car, what would you get? • What appeals to you about that car?	
	Non drivers only : • Tell me about your decision not to buy a car? • Tell me about [alternative mode of transportation]? How you do you like it?	
11	In an ideal world, how would you like to get around for transportation? • What would have to change in the real world for you to be able to do that?	
12	Have you made any other big decisions that relate to transportation? Like did you choose to live in this town or this neighborhood due transportation considerations?	

Home energy questions

I'm also interested in how people use energy in their home. Let's talk a little about your home.

#	Question	X
13	Where do you live? • Do you live in a house or apartment?	

14	What appealed to you about your house or apartment?	
15	Can you tell me about energy use in your house? What are your main thoughts about energy use?	
16	How do your thoughts about energy use influence your decisions about heating and cooling your home or buying or using appliances, and lights?	

Motivation Questions

#	**Question**	**X**
17	How did you get started with saving energy and/or using efficient transportation?	
18	What do you think motivates you to keep doing these things?	
19	How do you interact with your friends and family on energy and transportation issues? • Do these topics and your choices come up in conversations? What are those conversations like?	
20	How did you learn about doing these things?	

Climate Change questions

One major energy issue that is all over the news today is climate change.

#	**Question**	**X**
21	What are your thoughts about climate change?	
22	Do you think the climate is changing? • If no: what do you make of all the attention climate change gets? • If yes: What do you think is causing climate change?	
23	Would you say you are concerned about it? Why or Why not?	
24	What impacts do you think climate change will have? • Do you think it will impact you in your lifetime? How?	
25	Where do you get information about climate change?	
26	What do you think we should be doing about climate change? If anything?	
27	Who do you think should take primary responsibility for reducing climate change individuals, governments, or businesses? Why?	
28	Do you think your political views influences your thoughts about climate change at all?	
29	How would you describe your political views? Would you say you are actively involved with politics?	
30	Did you think about climate change at all when making energy use and transportation decisions?	

31	Did you think about energy security or energy independence at all?	
32	Are there things you have done in response to climate change that we have not discussed?	

Local impacts questions

One other thing I'm really interested in is how people think climate change will impact the Missoula area. Were you here in the summer of 2007, it was the last really hot summer we had, with lots of fire and really smoky days here in Missoula? That summer was kind of like what climate scientists think it will be like here in the future if climate change continues.

#	**Question**	**X**
33	Do you think climate change will impact this area?	
34	Did the fires or extreme heat, etc change your life at all? Did it impact you quality of life or desire to live here?	
35	If it there were going to be a lot more summers like that or worse how would you respond?	

Closing Questions

Ok, we're almost done here. I just have a few closing questions.

#	**Question**	**X**
36	Is there anything else you think we missed in terms of your thoughts about climate change or energy, or your decisions about energy use?	
37	Once I get a chance to digest all this great information, if I have any quick follow up questions may I contact you again?	
38	Do you have thoughts on anyone else I should talk to who would have an interesting perspective on these issues? Anyone who has done similar things? Anyone who does not buy this whole climate change thing at all?	

APPENDIX 2: NOMETHETIC CATEGORIES AND THEMES FOR EACH INTERVIEWEE

Primary motivations for action are highlighted in bold

#	Name	Personal history	Values/worldview	Other motivations	Actual decision making process	Beliefs about climate change causes, impacts, concern	What should we do about climate change	Actions
1	David	Carpenter Married to Emily Kids (grade school) Wife has climate change job Experiencing how people live in Africa Experiences in wilderness	**Very strong environmental values** - Biophilic values –concern for other species. Humans can impact environment and have responsibility to protect environment. Consumption values: notes that American culture is wasteful compared to poorer countries. Role of government: welcomes strong role for government	Saving money as side benefit (built house mainly for environment, affordability played into as well)	Strongly motivated by environmental values Compromise between values/preferred actions and actual actions due to having kid. Guilt about not following ideals/values all the time Bases decisions on science, data, evidence Saving money is side benefit Climate change not main motivation – started environmental actions before climate change. But now he does factor it into his decisions.	Human caused High concern Most concerned about impacts to species, extinctions, "they will suffer a lot more than we will" Believes Missoula valley could be inhabitable in 50 years – will affect his kid Moderate personal relevance based on timing and location of impacts – will affect his kids	Individual behavior change not enough Government policy best option	**High** Green materials/energy efficient home Hybrid car Lots of behavioral actions to assess and reduce home energy use. Only one child to reduce family footprint Growing own food
2	Crystal	University job – student support School age	**Consumption values – Frugality** Is primary motivator – don't waste money, careful planning of		Usually careful decision making based on Saving money/carefully allocating resources	Primarily natural causes Low concern	Strong focus on collaborative solutions, working together,	High Fuel efficient car Home

#	Name	Personal history	Values/worldview	Other motivations	Actual decision making process	Beliefs about climate change causes, impacts, concern	What should we do about climate change	Actions
		kids Family more conservative than her	where money will be spent Environmental values – supports environmental protection but not a main focus for her, side benefit. Role of government: supports individual freedom but sees role for government in addressing climate change. Willing to accept regulations on business but not individuals.		Compromise on preferred actions/frugality due to practical realities of family/kids and desire to give family things they want.	Impacts mainly focus on glaciers and how people will change in response to regulations. Doesn't expect them in her lifetime Low personal relevance	finding middle ground. Thinks government has to get involved because problem is so big and people are too lazy to change.	renovations Energy efficient appliances Low consumption (don't use dryer, use blankets and turn thermostat down).
3	Amy	UM job – administrative assistant Grown up son Lives in off grid home in seeley swan area	Environmental values: not major focus. Doesn't think humans can impact environment that much. Does think we should live and let other species live and limit toxins we release into environment. But motivation on toxins seems more selfish, desire not to consume them. Consumption values:	**Living settler live style** **Self sufficiency and independence main motivators** Interested in fuel efficiency to reduce emissions – so tot to be breathing	Doing what feels right, kind of spur of the moment– she just loved it once she got out to the cabin	Primarily natural causes. Does not seem to have much faith in science "they are always coming up with a new theory" Low concern Impacts focus on increased regulations, which she seems to think will be bad. Doesn't mention things happening in	Doesn't seem to think we need to do much. Individuals should change if they want. Opposed to government intervention.	High Lives totally off the grid, very low energy, simple lifestyle (manual kitchen tools, no refrigerator, etc). Grows own food Drives long commute, not a fuel efficient car

#	Name	Personal history	Values/worldview	Other motivations	Actual decision making process	Beliefs about climate change causes, impacts, concern	What should we do about climate change	Actions
			Seems to prefer a less capitalistic culture (not happy with how we're forced to live, being so dependent on the dollar) but won't go into it. Very focused on independence, self sufficiency – key theme of interview Role of government – opposes regulations on individuals; focused on individual freedom	poisons – but didn't get a very fuel efficient vehicle Does not mention saving money at all.		her lifetime Low personal relevance		
4	Sonya	Stay at home mom moving into family counseling job Married to college professor and has own science Phd School age children Very liberal family	**Environmental values – very strong**. Beliefs humans can impact and environment and have responsibility to lessen impacts. Strong belief in letting other species thrive. Repeatedly notes that her actions are for the environment not to save money. **Strong social justice**	Specifically says she is NOT motivated to save money.	Very motivated to live out her environmental values. Does compromise based on practicality and giving family what they want but feels guilty	Human caused. High concern Strong emotional connection (she cries when asked what does she think about it). Impacts focus on harm to wildlife and indigenous people. Specifically says she does not care that much	Government should regulate to lead lifestyle change. Our culture is the problem, too rushed, too wealthy. But stops short of saying we need culture change to stop climate change. Individuals can	High High tech energy efficient house (ground water heat pump, solar, green materials) Hybrid car Efforts to lower consumption of energy, use alternative transportation

#	Name	Personal history	Values/worldview	Other motivations	Actual decision making process	Beliefs about climate change causes, impacts, concern	What should we do about climate change	Actions
		("commies") Spent time in nature as a kid	**values** – main concerns about climate change are impacts on indigenous people (and wildlife). Consumption values: American's footprint too large, prefers how other countries/cultures live like Europe with better planned communities and Latin America with more focus on family, less on travel/consumption. Role of government: socialist, prefers large role for government for common good.			about other people. Moderate to high personal relevance based on level of emotional connection and sees some personal impacts like loss of skiing but thinks these are minor. Moderate involvement	do a lot but generally not aware or don't care.	
5	Emily	Climate change/ environmental job School aged kids Experiences in wilderness	**Strong environmental values** – humans can impact environment and have responsibility to lessen impacts. Also cares about non human species.	Not being a hypocrite – taking actions herself makes her feel better about her work trying to get others to do things about climate	Very conscious decision maker to live environmental and social justice values. Spends a lot of time researching best actions (comparing fuel mileage, tracking energy consumption of	Human caused High level of concern (lies awake at night) Knows about all kinds of impacts but most personally concerned about	Government regulation, especially at federal level. Views government as good, a socialist at heart. Individual	High Energy efficient/ green materials house Lots of home energy use behavior changes to

#	Name	Personal history	Values/worldview	Other motivations	Actual decision making process	Beliefs about climate change causes, impacts, concern	What should we do about climate change	Actions
		and other cultures (Africa) Married to "David"	**Strong Social justice values** – concern about climate change is largely about poor people. Views climate change as a moral and social issue not just environmental Consumption values - We should reduce our consumption. Views US culture as "greedy" Role of government – socialist prefers strong role for government	change. Teaching her kid about how to live sustainably Saving money – she mentions this as a motivation but immediately notes "it's clearly more than that" referring to environmental and social justice reasons	appliances, etc) Does not mention need to compromise for needs of family, but rather for personal desires. Feels guilty about compromising. Climate change is motivational-though not what got her started being environmentally friendly.	impacts on poor people Moderate personal relevance – main concerns are for other people, but high emotional connection. Involved in issue	action can help but more focused on collective action, pulling together to lobby, to make major changes in our communities. Believes messaging about climate change needs to be positive to get people to act.	reduce consumption Hybrid car Low consumption lifestyle (not buying a lot of stuff) Home location to allow for alternative transportation Climate change activist/ organizer (more political/business oriented than protest oriented)
6	Gary	Green building job 50s? College educated? In relationship Grown kids	**Strong environmental values** – believes humans can impact environment and have responsibility not too. Frames environmental values as almost anti-technology. Sees conservation as tied to keeping things	Saving money – he definitely considers most efficient use of financial resources but seems more related to desire to be efficient and "right size"	Combined environment/ community/ consumption value is very strong motivator. Very conscious decision maker for large purchases - does a lot of research to decide best choice Habit – home energy conservation seems like	Human caused Thinks climate change is kind of a buzzword. Thinks it is disempowering because it makes people feel like their own behavior doesn't matter, can't help.	Culture change – conservation, consuming less. Major behavioral changes needed. Collaborative solution, we all have to figure out how to make this work,	High Low consumption Fuel efficient mini truck Low-tech energy efficient home Growing own

#	Name	Personal history	Values/worldview	Other motivations	Actual decision making process	Beliefs about climate change causes, impacts, concern	What should we do about climate change	Actions
		Frugal family upbringing Formative experience seeing clear cut in Libby Formative experiences seeing how other cultures live.	local. Sees strong link between transportation, building/city planning and sustainability **Consumption values**: strong anti-consumption values, Very focused on efficient consumption/right sizing our lifestyles. Anti-technology. Strong value on community as part of lowering consumption. Believes in right sizing, living smaller, people focused communities, needing less, consuming less to avoid impacts of consuming too much. Social justice values present - Believes in equity – people in other countries deserve opportunities, health care, etc, need to redistribute energy	than a strong motivation of saving money.	a lifestyle, not conscious anymore. Seems like he is kind of shaking his head at others, motivated almost by anger at how wasteful other people are.	Impacts focus on Ecosystem changes and reduction in water Shifts will be so major that human populations will have to migrate, wars and civil unrest likely as resources run out. Doesn't mention impacts in his lifetime Low personal relevance based on impacts he describes	get the best heads together. Government should raise fuel prices to force behavior change. Government investment in better community infrastructure, walkable communities, mass transit People should be required to go spend time in other cultures, to see how they live with so much less.	food

#	Name	Personal history	Values/worldview	Other motivations	Actual decision making process	Beliefs about climate change causes, impacts, concern	What should we do about climate change	Actions
			Role of government – prefers primarily market based interventions.					
7	Indigo	Environmental health job 2 grown kids and grandkids Lived in an ashram Lives in eco-village in seeley swan area	**Environmental values**: Generally pro-environmental values but does not discuss them that much. Wants to live like nature-follow natures principles of no waste. **Consumption values are more important motivator** - Believes in low consumption culture – need for culture change, consumption does not result in happiness. Also Prefers a more local, community based life. Value consensus, collaboration over competition. Anti-globalization, capitalism, and global economy. Personally motivated by consuming efficiently	Doesn't talk much about saving money. Not a key motivation.	Really lives her values – founded alternative community, very active in making her home and land efficient and "work like nature". Very do it yourself, just do it. Makes decisions based on instinct, Goes with her gut, what feels right. Does make compromises between ideals and comfort, convenience but does not seem to have guilt about it or call it out as some other "high" actors do. Very conscious decision making about "being kind to the earth" she says they pay very close attention to their "sins" like buying non-local foods, coffee. Climate change not a motivation for her, it's secondary to her desire	Mix of human and natural causes. Pretty high concern, but also says she can't live in fear. Sees potential for major earth and cultural collapse from climate change. Also discusses erratic weather. Doesn't mention impacts in her lifetime Moderate personal relevance – will impact her forest	Thinks culture change is needed. Sees individuals as driver of change vs government. Very into "do it yourself" change, just live the culture you want. Focuses on what she is doing in her own eco-community as solutions to climate change. Need to educate individuals about environmental consequences of their actions Individuals need to vote with their pocket book – demand products that allow them to	High Started and lives in Eco village community Very energy efficient, low consumption home Grows own food and buys local. Carpools Tries not to fly too much.

#	Name	Personal history	Values/worldview	Other motivations	Actual decision making process	Beliefs about climate change causes, impacts, concern	What should we do about climate change	Actions
			Role of government: unclear. She believes corporations are running government, which makes her think government is ineffective. Says she favors natural law party.		to be efficient and low consumption.		live "lighter"	
8	Andrea	Green transportation related job College educated Married Preschool aged kids	**Environmental values**: generally pro-environmental – main motivator for actions is wants to help "save the environment" Consumption values: thinks individuals should consume less to reduce environmental footprint but not a cultural issue Role of government: Willing to accept regulation of individual behavior including regulation and incentives.	Saving money as side benefit	Environmental values are primary motivator. Makes very conscious decisions. Does have to compromise on transportation (using car) sometimes but very conscious about it. Habit – using alternative transportation and low energy consumption is ingrained in her lifestyle, doesn't think about environment every time. Climate change is a motivation as element of overall environmental protection. Got her started in her habits.	Human caused High concern Impacts she mentions focus on weather shifts, forest fires locally, ice caps melting, sea level rise. But doesn't mention harm to wildlife or poor people. Not emotional about impacts. Feels we are at a critical point to impact how bad climate change will be. Doesn't mention changes in her lifetime	Does believe that small individual behavior changes add up and will help Thinks government needs to provide carrots and sticks to motivate behavior change. Also government should regulate businesses to meet improved energy efficiency standards	High Uses a lot of alternative transportation (biking, transit) Home location to facilitate alternative transportation Low energy consumption in home

#	Name	Personal history	Values/worldview	Other motivations	Actual decision making process	Beliefs about climate change causes, impacts, concern	What should we do about climate change	Actions
						Low personal relevance based on impacts she mentions but moderate to high in terms of connection to her own actions – involved in issue		
9	Maya	Green transportation job Grown children Experiences in nature – Yellowstone trips	**Environmental values** – believes humans can impact environment and have responsibility to limit impacts. Also believes other species have right to thrive. Main motivation is preserving beauty of nature. **Consumption values – primary motivator**. Interwoven values of community, social consumption, and reduced consumption. Believes we need a culture change. Sees strong connection between community	Not motivated by money – "funny colored paper"	Community/consumption value main motivator. Does compromise for practicality (e.g. drives for shopping). Does not always make most environmentally friendly choice because community/consumption values are main motivator not preserving environment specifically. Climate change is too big to be motivational	Human caused High concern Impacts: Foresees pretty serious change (we could be working ourselves out of a place to live) in next 50 to 100 years. Moderate personal relevance – will impact kids	Government needs to strongly regulate individual behavior and invest in better planned communities (transit Outlaw one acre lots/ranchettes, zone for dense communities). Need faster change than could happen through individuals/ market forces. Messaging about climate change should be more	High Frequent use of alternative transportation (biking, walking, bus) Chose home to be able to use alternative transportation Energy efficient home

#	Name	Personal history	Values/worldview	Other motivations	Actual decision making process	Beliefs about climate change causes, impacts, concern	What should we do about climate change	Actions
			focuses living, sustainability, and overall happiness/well being. Current culture is "car culture' sold to us by corporations. Role of government – socialist- Regulating individual behavior for common good.				personal and positive.	
10	Glen	Green energy job Preschool age kids Year abroad in Australia with green focused family Job and social group in native plants/ sustainability in California	**Environmental values – strong motivator** Very aware of human impacts on environment and his own personal impacts. Very conscious decision maker about transportation and energy use Being green makes him feel good – biophilic/altrusitic values (helping to improve the world). Land use ethic/community membership – believe in denser	**Social network/ movement –** motivated by being part of a social network, a progressive, green community. Saving money – not so much a personal value of frugality as a practical reality, also seems more like a side benefit.	Compromises between values and realities of having kids Very aware of these compromises and considers environmental impacts of decisions. Weather, destination, balancing need to transport kids safely with green values. Climate change is motivational, considers GHG emissions of transportation and energy decisions	Human caused High concern Impacts are "the existence of humanity" threatened, major strife, also specifically mentions weather patterns, flooding, drought, etc. Sees impacts of "thousands and thousands of years. Low personal relevance based on impacts he mentions but moderate based on connection to his	Business community needs to take the led because has capital, innovation, and agility. government is not in a position to be very effective on climate change. Though government tax incentives, cap and trade type legislation would be very powerful. Individual action is great,	High One car family Biking and bus Programmable thermostat and other behaviors to reduce home energy use Grow own food, consume locally

#	Name	Personal history	Values/worldview	Other motivations	Actual decision making process	Beliefs about climate change causes, impacts, concern	What should we do about climate change	Actions
			communities, shared public gardens, shared public open space Passing green values on to kids is important to him. Consumption values: does think reducing individual consumption of energy/environmental footprint is good but not a cultural problem.			own actions, Involved in issue	but can't make major change without government and business communities being on board.	
11	Paul	College student Leader of student climate change organization.	**Environment values**: Generally pro-environment values. Does think humans can impact environment and have responsibility to reduce impact. Protecting biodiversity important but mainly for ecosystem services to humans. **Social justice values:** impacts of energy generation on	**Social movement** – being part of the UM CAN and the group of people he's friends with got him started and keeps him motivated. Also, moving up the ranks of the organization Doesn't	Very conscious process in terms of transportation and how to avoid using car Habit – saving energy and using alternative transit are like second nature to him Climate change is motivational for him. It is what got him started on using alternative transportation and energy efficiency.	Human caused High concern Not knowing what will happen is cause for concern. Extinctions/ Loss of biodiversity/loss of ecosystem services; Impacts to human infrastructure and economy especially impacts on low income people;	Culture change - rethink society to be less competitive, greed based, more collaborative Business has most ability to act. Government action needed too – carbon tax Sees role of	High Biking and public transit as main transportation. Chose house to be on bus line and near school. Weatherized apartment, CFL light bulbs, low flow shower heads

#	Name	Personal history	Values/worldview	Other motivations	Actual decision making process	Beliefs about climate change causes, impacts, concern	What should we do about climate change	Actions
			low income populations is primary motivation for interest in environmental issues. Consumption values: Culture shift needed capitalism is built on "competition and greed" Thinks we should consider a collaborative society that it might be more efficient than competition.	mention saving money as a reason for doing home weatherization or in vehicle use decisions.	Risk assessment model/ insurance – we don't know how bad climate change could be so why not do things to try to stop it?	Impacts will happen in his lifetime Moderate personal relevance based on timing of impacts and as motivation for his own actions. Involved in issue.	individuals largely as what they do as members of business or government organizations rather than as individual consumers/ actors.	Climate change activist/ organizer
12	Joel	College student Leader of university wilderness organization and Member of university climate change organization Lived in India as a kid Sister took him out into nature on	**Environmental values: Strong biophilic values** – believes other species should have the opportunity to fulfill their evolutionary potential without human impacts. Strong emotional connection - got so depressed about climate change he had to stop being so involved. Consumption values: Considers western	**Social movement** – Motivated by being part of a movement, seeing other people get excited, protest, be active, etc. Saving money – includes saving money as one of top three reasons for not having a car/riding a bike	Primarily motivated by environmental values Being part of social movement is strong motivation Compromise – considers overall values in decision making but also balances practical realities and other desires. Is motivated by climate change but feels the issue to too intangible to be that motivational	Human caused High concern Sees pretty dire consequences. Decline in biodiversity is main concern. Moderate personal relevance in terms of emotional connection to issue.Inovled in issue.	Increase the social movement is number one recommendation Need a cultural revolution Thinks we need government policy but feels frustrated that they are so inactive. Personal actions important, but	High Bikes mostly, no car Activist Keeps thermostat low.

#	Name	Personal history	Values/worldview	Other motivations	Actual decision making process	Beliefs about climate change causes, impacts, concern	What should we do about climate change	Actions
		environmental projects as a kid	culture greedy and over consuming. Thinks we need a cultural revolution, climate change is just a symptom of cultural problems Wealth leads to physical environments that increase consumption (less dense communities, less public transit) Role of government: seems fine with government regulation	Exercise (riding bike or walking)			seem too small. Education, raise awareness of links between actions and environmental consequences Does not want technological solution (clean renewable energy) because will just make us consume more and have more impacts on other species.	
13	Rich	Community planning job Grown children, grandchildren	Environmental values – generally agrees we should protect environment and not waste resources, but not a main focus. More focused on need for better planned communities, walkable, transit oriented, which he feels will have environmental and economic benefits.	**Saving money,** though specifically says that money is not that tight for him he just doesn't want to throw it away **"not wasting"** though does not directly	Convenience – would like to use the bus but its not convenient enough Features- needs hauling room, he's a "tool nut" has power everything. Does not consider environment or climate change in his decision process – won't do it until govt incentivizes him to.	Primarily natural causes BUT thinks its good if it helps us "treat the earth better" Low concern Impacts focus on human infrastructure, damage, animal extinctions to lesser extent. Doesn't mention impacts in his lifetime.	Government should incentivize better behaviors (gas tax) and invest in better public transit, denser cities, etc. or people won't change. Government incentives should focus on creating Denser communities, better public	Moderate actor Drives, does not really make conscious decisions about using alternative transportation – not really in his decision set. Does reduce energy consumption at home by lowering

#	Name	Personal history	Values/worldview	Other motivations	Actual decision making process	Beliefs about climate change causes, impacts, concern	What should we do about climate change	Actions
			Consumption values: no need to consume less Role of government: Human nature is selfish, people need government to incentivize behaviors that are good for the common good.	call out environment as reason for not wasting. Waiting for government to incentivize behavior changes before he will make them. Personal comfort, convenience,		Low personal relevance	transit.	thermostat and minor home repairs. Interested in solar panels for future home in Florida where he feels they will pay off. Motivation seems to be saving money, not wasting sunlight.
14	Rachel	Student services job at university Also a grad student No kids Seeing trash dump on a Caribbean island made recycling personal for her.	Environmental values: Generally pro-environmental values but not a main focus for her. Mainly comes from social pressure of having environmental-science boyfriends. Social justice values – more concerned about social impacts of consumption Consumption values No negative views about consumption but does feel good about buying things	Main motivations are **saving money and getting exercise.** Specifically says she prioritizes saving money over environmental benefits. Convenience of not having to park, not having to worry about drinking and	Prefers walking (for exercise and saving money) and trying to keep heat down (to save money) but very willing to compromise on preferred actions for convenience and comfort. Does not think about climate change; too big of an issue to be motivational	Human caused Not real concerned about climate change, feels like it will impact the next generation more. Not real sure when impacts will happen or what they will be. Mentions impacts on polar bears, but not as if she is really upset about them. Otherwise doesn't really mention any possible impacts.	Government should set emissions limits and monitor businesses. But not keen on strict regulations for individuals Need a social movement so people will get into it and change their behavior.	Moderate Primarily walks, uses car infrequently for major shopping trips, etc. Weatherized her rented house but doesn't really want to keep a low thermostat, prefers comfort

#	Name	Personal history	Values/worldview	Other motivations	Actual decision making process	Beliefs about climate change causes, impacts, concern	What should we do about climate change	Actions
			second hand Role of government: Not opposed to government intervention in society	driving. Environmental benefits are side benefit Personal connection/ experience – she recycles because she saw a disgusting landfill on a beautiful Caribbean island.		Low personal relevance		
15	Liz	College student	Environmental values: does think people should respect and protect the earth, but not a major focus for her. Not clear she thinks people can impact environment significantly. Consumption values: Does not express any thoughts about nee to reduce consumption Role of government: willing to accept government regulations even of	**Saving money** – specifically says money is tight for her. Environment is side benefit. Exercise, being outside are why she prefers biking. Overall green movement in Missoula Climate	Weather and time – if she has enough time to ride bike, if weather is bad she'll take the bus. Comfort – she'll turn up the heat if its cold to be comfortable.	Mix of human and natural causes Low concern Main impacts she notes are sea level rise, which will crowd people into smaller space, Doesn't mention impacts in her lifetime. Low personal relevance	Individual action - everyone doing the little things they can do. Everyone should be more aware of the little things they can do, if we all do them it will make an impact Business should make more green products, they have most influence on what people buy	Moderate actor - Bikes and uses bus a lot, doesn't drive that much.

#	Name	Personal history	Values/worldview	Other motivations	Actual decision making process	Beliefs about climate change causes, impacts, concern	What should we do about climate change	Actions
			individual behavior	change not primary motivation, side benefit compared to saving money			Governments should regulate but doesn't think this will happen.	
16	Jane	College student, also works on campus No kids	Environmental values: Believes that humans can and are impacting the environment. Overall feeling of responsibility to reduce environmental footprint. But does not seem to be a driving value in her life. Feels energy conservation is a "modern thing" a cultural movement that is happening now. Consumption values: does think Americans consume too much, thinks lifestyle change will be necessary Role of government: unknown	**Saving money –** does not have the money to buy a car, would buy a small fuel efficient one for lower purchase and operating costs.	Financial, saving money. Environment not a major factor in her decisions. But thinks she should consider environment and climate change more in decisions.	Human caused High concern Focuses mainly on extreme weather impacts. Feels it is a crisis, destroying the planet. And happening faster than most people think. Moderate personal relevance – doesn't mention any impacts to her personally but does thing impacts are already happening in terms of erratic weather	Individual action - mainly through building a social movement. Word of mouth, build awareness, build the buzz and to raise individual awareness and encourage individual behavior change. Friend to friend, not media campaigns. Feels government should "set examples" and get out the message. Feels that consumers are taking the lead, it is bottom up vs top down.	Moderate Doesn't own a car Mostly walks and bikes

#	Name	Personal history	Values/worldview	Other motivations	Actual decision making process	Beliefs about climate change causes, impacts, concern	What should we do about climate change	Actions
17	Leo	Non traditional College student also works School age kids Grew up in off the grid, no electricity house for a while – has romantic interest in settler lifestyle but also notes it "sucked" to live it.	**Environmental values: Humans over nature** – thinks humans have the right to take what they need from nature. Not going to change lifestyle to protect the environment. Very local perspective – concerns about pollution are all about local air pollution; Social justice values – thinks we can't limit ability of poorer people to grow their economies and opportunities with climate change regulations. Role of government: willing to accept regulations that benefit him, like local air pollution.	**Saving money** – but this is a real value of frugality, more practical.	Very careful decision maker based on costs, does a lot of research and calculations on the most cost effective choice. Values being "fact based" and rational, but not clear his facts are actually correct. Comfort/ convenience – keeps house warm to be comfortable.	Natural causes – natural cycle but increased by humans. Not concerned about impacts in Montana (localfocus) thinks being warmer here would be fine. Does recognize negative impacts elsewhere like sea level rise and extreme weather Low personal relevance – or moderate as he thinks it might be personally good for him where he lives.	Not clear he thinks we should do anything. DOES think we should address local pollution, like woodstoves. Innovation and technology will take care of a lot of pollution Government should set pollution standards – more about local pollution. Business has the biggest impact/ role. Individual action would have minimal impact.	Low actor doesn't really do anything to conserve. Does sometimes walk to school but lives only a few blocks away.
18	Lynn	University support services job	Environmental values: does seem to think that humans	**Saving money** is a consideration	**Mainly convenience, comfort, needs of kids, and financial**. But does	Unsure about causes – thinks humans do play a	Feels like we are already on a good path –	Low actor Programmable

#	Name	Personal history	Values/worldview	Other motivations	Actual decision making process	Beliefs about climate change causes, impacts, concern	What should we do about climate change	Actions
		School age kids	can impact environment and feel like it's a good thing to reduce impacts but not a main focus in her life.	in what car and how much she drives – on a budget but does not sound like frugality is a value or she spends a lot of time researching or budgeting	not sound like a real financial planner. She is conscious of energy issues but they don't play into her day to day decision making. That's more about her family needs, money, etc.	role. Says it is better if humans are the cause then we can do something to stop it or slow it down. Kind of the risk/insurance model sentiment. Low concern Impacts mainly focus on weather, seasons, water supply Feels that changes are already occurring in seasons, weather Low personal relevance	don't need to do much Government should engage in education only.	thermostat Would like to get more fuel efficient car next time she buys one
19	Grant	College student	Environmental values: Humans are above wildlife and nature – our needs are more important. Consumption values: no need to reduce consumption. Financially motivated – e.g.	**Saving money** – primary motivation for taking bus to campus (it's free). Will consider this more in home when he pays for utilities.	Convenience Saving money Function/features - needed four wheel drive car to drive over passes.	Primarily natural causes Low concern Impacts will be small – just one degree in average temperature change. Low personal	Business should lead Sees climate change mainly as a business opportunity - business opportunities associated with climate change	Overall low actor Low actor Does ride bike and take transit to school for convenience/ saving money

#	Name	Personal history	Values/worldview	Other motivations	Actual decision making process	Beliefs about climate change causes, impacts, concern	What should we do about climate change	Actions
			won't recycle without financial incentive and seems interested in climate change mainly for business opportunities. Role of government: should not regulate only provide incentives	Seems financially motivated in general. Convenience		relevance	as a good thing Innovation and technology will address problem, no need to change behavior. Does not think government should regulate behavior but does favor incentives to benefit people who make choices to reduce climate change.	
20	Tony	Has own business as building contractor College and highschool aged kids Lives in Bitterroot	Environmental values: human can't impact environment, but struggles with this belief. Nature is mainly for human consumption but believes we should not waste natural resources. Consumption values – no need to reduce consumption. Believes market	**Saving money** – "no sense wasting money where money doesn't need to be spent." But does not do that much to really save and is not in tight financial situation.	Features, function, comfort and convenience Financial and not wanting to waste energy or resources, but does not limit consumption either. Habit, "just a lifestyle, how we operate" Has a slightly risk/ insurance model on climate change (I guess thats why we don't	Primarily natural causes Low concern Thinks we are already seeing change, but thinks it mainly natural. Focuses on decreased snow fall and glaciers melting. Low personal relevance, but does	Probably should do nothing. Not worth changing lifestyle to possibly reduce climate change. If it was proven to him humans were impacting the climate then we should raise gas prices. Market forces	Low actor Does keep heat turned down in house when not at home and uses a room heater as needed. Drives everywhere, does not prioritize fuel efficiency in vehicles.

#	Name	Personal history	Values/worldview	Other motivations	Actual decision making process	Beliefs about climate change causes, impacts, concern	What should we do about climate change	Actions
			forces will fix things – as things get more scarce, prices go up, we find alternatives. Role of government: should not intervene in society		waste resources in case we are having some impact).	see some personal impacts in terms of skiing	should solve it.	
21	Ben	College student Farming family	Environmental values – does think humans can impact environment and seems to have general sense that protecting environment is a good thing. But not a main focus for him. Consumption values – do not need to reduce consumption. Role of government: government should regulate businesses or they won't do the right thing.	Social theme – he supports biofuels and climate change related incentives because his brother is benefiting from them. Convenience Saving money – mentioned in context of purchase price of new car (though he bought a mustang). Seems like desire not to buy gas has more to do with energy independence	Convenience – bus to school comes right outside his house. Driving elsewhere because bus is too inconvenient. Comfort – keeps thermostat low but says its for comfort not saving money or environment. **Personal benefits**, not thinking about common good or larger principles in energy and transportation decisions.	Human caused Low concern – but he says he is concerned because government is paying him to care by providing incentives for farmers to capture carbon, reduce ghg emissions. Thinks impacts are more like 20-30 years off. Mainly focus on extreme seasons/temperature Moderate personal relevance – he is interested based on opportunities for his family	Individuals should so the "easy things" to reduce carbon in own behavior Government should regulate businesses and provide incentives to reduce carbon, Has insurance policy mentality – if there is something we could do easily to stop climate change, why not do it?	Low actor – does not really consider public transit other than to school. No actions in home.

#	Name	Personal history	Values/worldview	Other motivations	Actual decision making process	Beliefs about climate change causes, impacts, concern	What should we do about climate change	Actions
				Status/ looks/ fun Energy independence				

APPENDIX 3: INTERVIEWEE BELIEFS ABOUT PERSONAL RELEVANCE OF CLIMATE CHANGE

Interviewee	Beliefs about climate change impacts and personal relevance	Concern about Local Impacts and Response	Level of Climate Friendly Action
David	Impacts to species, extinctions, "they will suffer a lot more than we will" and to people Missoula valley could be inhabitable in 50 years Moderate personal relevance based on timing and location of impacts – will affect his kids	Not worried about house burning. Smoke is main concern, health issue. Also loss of irrigation water. Response: have considered moving to Alaska, but might be worse there. Not sure where it would be better, where to go.	High
Crystal	Impacts mainly focus on glaciers and how people will change in response to regulations. Low personal relevance	Concerns are not being able to camp without camp fire, lower rivers/fishing, less snow for animals and impacts on hunting – will cause a "whole culture change" Response: would not move because of jobs, family, friends, etc. Might travel further to get to places that have the stuff they enjoy.	High
Amy	Impacts focus on increased regulations, which she seems to think will be bad Low personal relevance	Doesn't like smoke and fires but sees them as natural cycle. Response: just takes it in stride one year after the other.	High
Sonya	Impacts focus on harm to wildlife and indigenous people. Specifically says she does not care that much about other people. Moderate to high personal relevance based on level of emotional connection and sees some personal impacts like loss of skiing but thinks these are minor. Moderate involvement	Concerns are heat and smoke. Response: Would want to move higher or further north. But wonders if it wouldn't be worse everywhere…can only move so high.	High
Emily	Knows about all kinds of impacts but most personally concerned about impacts on poor people and wildlife. Moderate personal relevance – main concerns are for other people, but high emotional connection. Involved in issue	Concerns are smoke and heat. Response: would get out of town, travel but recognizes then you're doing just want you shouldn't do "spending carbon to go somewhere else". Says she wouldn't want to live here but don't know where else she would go.	High
Gary	Impacts focus on Ecosystem changes and reduction in water Shifts will be so major that human	Mentions possibility of town burning down. But feels his house is pretty safe in a neighborhood.	High

Interviewee	Beliefs about climate change impacts and personal relevance	Concern about Local Impacts and Response	Level of Climate Friendly Action
	populations will have to migrate, wars and civil unrest likely as resources run out. Low personal relevance based on impacts he describes	Response: already gets out of town in August – example, went to Iceland.	
Indigo	Sees potential for major earth and cultural collapse from climate change. Also discusses erratic weather. Seems concerned but also kind of fatalistic. Moderate personal relevance – will impact her forest	Response: she is already working on resilience and mitigation on her own land.	High
Andrea	Impacts she mentions focus on weather shifts, forest fires locally, ice caps melting, sea level rise. But doesn't mention harm to wildlife or poor people. Not emotional about impacts. Low personal relevance based on impacts she mentions but moderate to high in terms of connection to her own actions – involved in issue	Concerned about smoke and having kids outside for health reasons. Response – would leave this area for a place with better air quality. "If that's how it was all the time, I wouldn't be here. We're here to hike and bike and be outside and the quality of life that Missoula can offer."	High
Maya	Impacts: Foresees pretty serious change (we could be working ourselves out of a place to live) in next 50 to 100 years. Moderate personal relevance – will impact kids	Concern is mainly loss of water and fires. Response- would move to a coast to be nearer to water.	High
Glen	Impacts include "the existence of humanity" major strife, also specifically mentions weather patterns, flooding, drought, etc. Sees impacts of "thousands and thousands of years. Also hopeful about the new energy industry that climate change is helping to create/inspire. Low personal relevance based on impacts he mentions but moderate based on connection to his own actions Involved in issue	Reasons he lives here for outdoor quality of life are "directly jeopardized by climate change" Specifically mentions fires and river closures. Response: "fairly dramatic statement but it would challenge the very reason I live here"	High
Paul	Human caused	Response – would move, would live in a big city where there is	High

Interviewee	Beliefs about climate change impacts and personal relevance	Concern about Local Impacts and Response	Level of Climate Friendly Action
	Impacts include weather shifts, extreme weather. Extinctions and loss of biodiversity. Impacts to human infrastructure and economy, loss of ecosystem services. Impacts on low income communities. Impacts will happen in his lifetime. Moderate personal relevance based on timing of impacts and as motivation for his own actions. Involved in issue.	more to do anyway if he could not enjoy being outside here.	
Joel	Impacts include ire consequences, very strong emotional connection. Decline in biodiversity is main concern. Less concerned about impacts on people. Mentions he is concerned about personal impacts (loss of snow for sking, etc) more concerned about other species, pace of change and their inability to adapt. Believes we will have, and have already had "climate wars" over resources and shifting weather/seasons, water, etc. Moderate personal relevance in terms of emotional connection to issue. Involved in issue.		High
Rich	Impacts are about human infrastructure, damage, animal extinctions to lesser extent. Doesn't mention impacts in his lifetime. Low personal relevance	Most concerned about smoke and fishing restrictions Response – Missoula will be better than a lot of other places	Moderate
Rachel	Impacts will be to the next generation. Not real sure when impacts will happen or what they will be. Mentions impacts on polar bears, but not as if she is really upset about them. Otherwise doesn't really mention any possible impacts. Low personal relevance	Did not ask this question.	Moderate
Liz	Main impacts she notes are sea level rise, which will crowd people into smaller space.	Concerns are air quality and not being able to run outside also less snow/skiing.	Moderate

Interviewee	Beliefs about climate change impacts and personal relevance	Concern about Local Impacts and Response	Level of Climate Friendly Action
	Low personal relevance	Response: Love Missoula, would adapt. Also thinks other places would have same problems.	
Jane	Impacts focus mainly on extreme weather impacts. Feels it is a crisis, destroying the planet. And happening faster than most people think. Moderate personal relevance – doesn't mention any impacts to her personally but does thing impacts are already happening in terms of erratic weather	Concerns are fires and irritating asthma, rivers being low and how that would change nature, being more "separated" from nature because can't go out in it.	Moderate
Leo	Not concerned about impacts in Montana (localfocus) thinks being warmer here would be fine. Does recognize negative impacts elsewhere like sea level rise and extreme weather Low personal relevance – or moderate as he thinks it might be personally good for him where he lives	Not concerned locally – thinks a little warmer would be better. Doesn't see much impact here. Forest fires are part of living in the mountains. Thinks its more cyclical.	Low
Lynn	Impacts focus on weather, seasons, water supply. Feels that changes are already occurring in seasons, weather Low personal relevance	Doesn't feel impacts much yet. Fires and their impacts on recreation would be biggest concern. Response: we are fortunate because conservation is still possible "in our hands" Would adapt not move. Feels it has already been hot and more fires for a while, maybe just a little worse.	Low
Grant	Impacts seem hundreds of years off. 1 or 2 degree change sounds like not much. Low personal relevance	Not concerned – only a few inches of river flow drop or a few degrees warmer won't affect him.	Low
Tony	Thinks we are already seeing change, but thinks it mainly natural. Focuses on decreased snow fall and glaciers melting. Notes loss of skiing areas. Low personal relevance, but does see some personal impacts in terms of skiing	Smoke is biggest impact on recreation/quality of life, and not being able to have campfires. Response: if it got bad enough we would drive further to get out of the smoke or leave the area.	Low

Interviewee	Beliefs about climate change impacts and personal relevance	Concern about Local Impacts and Response	Level of Climate Friendly Action
Ben	Thinks impacts are more like 20-30 years off. Mainly focus on extreme seasons/temperatures. Interested in climate change because government is incentivizing family of farmers to sequester carbon and produce biofuels. Moderate personal relevance – he is interested based on opportunities for his family	Concerns are smoke and freezing rain in winter Response: would still want to live in Missoula if he lived in Montana because people here are as important as the scenery.	Low

APPENDIX 4: NOMETHETIC ANALYSIS QUOTE TABLES

Some notes on these tables:

- Statements by the interviewer are introduced with an "I"
- Statements by the interviewees are introduced with the first latter of their pseudonym, except for Indigo who is abbreviated with an "R" for respondent to avoid confusion between the abbreviation I for interviewer and I for Indigo.
- In the nomethetic analysis chapter these quotes are referenced with NX.X, the first X shows the table number, for example Table 1 covers actions and motivations. The second X shows the interviewee number, for example Emily's quotes are always noted with a 1. So Quotes about Emily's personal energy and transportation actions and their motivations are noted as N1.1
- A series of three dots like … indicates a break in the interview transcript where some content that was not relevant to the key theme of the quote table was not included in the table.

Nomethetic Quote Table 1: Personal Energy and Transportation Actions and Motivations

N1.1 Emily

I: So we can jump into transportation. How would you say in general that you transport yourself around town, you and your family?

E: We use a car more than anything. I have my bike today. We do try to ride when – it's more when time permits these days. And this funny thing where our dog has separation anxiety so I'm not always able to be gone for very long. But, in general, I mean if I look at the course of the last 10 years of being in Missoula, I used to ride all the time, rode less once I had a kid, but we've always had bike trailers, tag-alongs, you know, we've always been able to commute with bike and now she can ride pretty far so we haven't, you know, just given up on that. But a lot of times, since I work from home, when I do drive, I'm either connecting and doing a bunch of errands at once and going to the University store and loading up or it's evenings and then it's harder from where we live, 3 miles out of town, to bike. So it would be nice to bike more but … I used to ride the bus when I was on campus but I don't do that as much.

I: Yeah, it's kind of hard to get the bus where you live.

E: You know it comes up on top of Lincolnwood, so it's about a 7 minute walk or so. I used to take it more when I had a free bus pass and then when Ren (sp?) was little she thought it was fun.

I: And so what kind of car do you have?

E: Our main family car is a Prius we bought about 6 months ago. And we bought it because it gets good gas mileage.

I: So that's just what I was going to ask. What appealed to you about that car?

E: Yeah, it's more environmentally friendly because we do drive and drive either small trips around town or (inaudible) trips so it gets 51 – it's been getting 51 miles to the gallon.

I: And your other car is?

E: My husband – we have a truck that we – that he uses for work and we use sparingly– 4-wheel drive, sort of more of a work truck. We still use it sometimes, not very often.

I: And did – you already said gas mileage played in your decision – played a role in your decision to get the Prius, did financial aspects play into the decision at all?

E: Yeah, I mean we actually had to save money for a while to get it. We would have liked to buy something like this a couple of years ago, but it took us a while to save money. And we bought a used one that we could afford. But it was a big investment. We've never spent – four times what we've ever spent on a car before, and a newer car because the newer ones do better. So it was definitely looked at as an investment and sort of the right thing to do, even though we could get cheaper cars. We looked at getting a new Honda Fit or something that was – but it just didn't do as well. So we really prioritized the better gas mileage.
I: And so if you were going to buy another car – you just did this 6 months ago – what do you think you would get?
E: Well, at this point, if we needed a new car, you know, ours was slammed and we had to go buy a new one, I would get another Prius. I'm looking forward to the day when we could buy plug-in Hybrid and have solar panels that we charged our car at night and that kind of system. We might still have a backup. It's going to be a while before we can drive Hybrid electrics around the country, you know, if you're going on vacation or something, but we do enough driving around town that I think hopefully there will be a system set up where we could have a plug in, not have to burn gasoline. And then that electricity was reasonably green. So that will be a few years.
I: And so in an ideal world, if you didn't have constraints, no constraints, how would you like to get around?
E: If my dog – once my dog gets more comfortable – we've only had him, as you know, for 2 months, so we're learning how to get al.ong here, it's been a bit of a project because he's a rescue dog – so I would like to bike more. I would like if there was a better bus system. I do some traveling in state for work. I would love that the Amtrak ran from Missoula to Helena to Bozeman to Billings. I would use it a lot. So for larger – I don't drive much on a day-to-day basis, but when I do drive, it's to Helena or sometimes to work around the state. I would love to take the train and work on the train for transportation. So in an ideal world, I think, one, it would be – it would be more varied and more public transportation oriented. If we had a better bike lane, even one up the Rattlesnake that was safer, it would be easier to go with the kids and more people would use that.
I: Yeah. Have you made any other big decisions that relate to transportation, you know, like where you live or, you know, vacation travel or any other things that you think are relevant that relate to transportation?
E: Yeah, I don't definitely make a lot of plans to fly places just because of carbon footprint stuff. It's not like I do the calculations every day or something and maybe if we had more money, I would be sloppier about that but maybe so it kind of works in our situation. I think in terms of where we live, when we first bought the property that we bought, we were looking – we were looking to some degree further out from Missoula, and I knew that that wouldn't work because I wanted to at least have the ability to ride my bike and, as I said, I used to ride it when I was a student on campus, I worked on campus, I rode it all the time four, sometimes five days a week. But we definitely wanted to be within a reasonable biking distance, not that some of those places further out aren't bikeable, but I think the further you get away, the harder it is sometimes to do that, depending on the person. Some of it is just the time constraint more than it is the ride itself. You've got to get home, your kid's coming home from school, or it's getting dark. Yeah – so I think we did decide to live in a place that was bikeable and not any farther out. It's definitely a compromise because if we lived even closer to town, we would probably use our car less. But we like where we live too for the amenities.
I: So I know that you have a very unique and interesting house in terms of energy use and I've heard a little bit about the straw-built construction and that kind of thing, but I'm interested from your perspective – and I know where you live and I know you own a house so I can kind of skip those kind of questions – but I'm interested in your perspective about energy use in your house. What are the important issues or concerns for you and kind of how you generally feel about and act towards energy in your house?
E: I think my husband and I told you I'm obsessed with it, which seems a little far, but we've done everything that we could to low (inaudible) in our house to be more energy efficient. I think – again,

there's some money constraints. If we had more money, we would probably buy a new refrigerator, we'd probably get some more energy efficient windows, and we'd get solar panels, all three of those things we continue to think about and try to figure out which to do when, you know, it seems like every time we do something, 6 months later there's a big tax break and the prices go down. We're always like 6 months too soon. And our refrigerator is not that old and some of those things. I think behavior-wise there's not a whole lot more that we can do. A lot of things are on the power strips. I turn everything off all the time. I just looked at our monthly energy use and it's a little over 200 megawatts per month, which I think the average house is 850.

I: Oh, wow.
E: I don't know if that's the average house in Montana, and that may not factor out the fact that our heating comes from natural gas. So I don't know – I just read something in the paper that that was the average number but a lot of people still heat their homes with electricity so that will bump up that number. We have a small house; we do the behavioral things that we can do to keep the energy down. We're not perfect by any means but we do – it would be nice to be able to do the next bigger projects of maybe better windows, especially it would be nice to have solar panels. But as I've been trained enough in this to know that really the energy efficiencies are the first things that you need – that make the most sense to do before you get out the generating of electricity. You may get more energy efficient appliances and go down that road. So we're thinking about it a lot. I don't know what our next step is.
I: And how would you say you got started on kind of this saving – interest in saving energy and the interest in reducing transportation, fuel use, that kind of thing?
E: I mean, I think initially it was a little more wrapped around the idea of sustainability, knowing that there's only so much oil, knowing that some of it comes from Nigeria and really horrible places and off-shore drilling, the impacts that we don't – that are just externalized, understanding that, and then the climate change stuff came into it, so you put the two together and it seems like it's kind of obvious why it's my obsession. I'm surprised it's not more people's obsession.
I: And so how would – what keeps you going on these, you know, to do all these things, making trade-offs between, you know, things that are easier and things that are –
E: Yeah.
I: What kind of keeps you going?
E: Yeah, I mean, some of it – a lot of those things that we do are saving money down the road, and so I think there's, you know, some idea that it's nice that are electricity bills aren't that super high. But it is clearly more than that. I mean, it's just being able to – especially since I work and I ask other people to work on solutions to climate change, whether it's doing hard policy or coming up, you know, you're asking politicians to make statements that politically aren't necessarily in their best interest or to be leaders on this issue. I mean, I'm talking to faith leaders and asking to be leaders on this, and if you don't – I wouldn't know how to do that unless I'm thinking about my own personal impacts because it's just too – I mean we're all hypocritical and I know – I just flew to D.C. to talk about this stuff. That's a lot of carbon. I feel like the more I can try to live more sustainably, the better I feel about the work that I'm doing. And I think it's also a very important message to kids that it's not all about what you want to do. I mean, my daughter is like can we get a hot tub, I'm like, no way we would ever have a hot tub. That's not – it doesn't fit within our ideas about living on this planet. So teaching her that there are some constraints or there are some ways that – the things you don't do just because of the more common good, I think is really important.

N1.2 Crystal
A: yeah, ok. Um ok, so just switching into transportation stuff to start and then we'll go on to home energy use stuff. How would you say in general you get around town?
I: By a vehicle.
A: ok

I: Um, we have three vehicles, um we bought a bigger truck because we do camp and we do have a boat. Um, but because of the cost of the fuel and the economics we also bought a little Toyota Corolla. It's a 95, it's a standard so, I think it's easier on gas that way too. But that is our primary running around town vehicle. My kids are in different activities and I am pretty much the primary person running them back and forth. So the truck sits unless we're going camping unless we need to haul something for a truck. Otherwise it literally sits and we changed the insurance so that the insurance is now just for recreational vehicle and so it costs us 10 dollars more a month total for insurance by switching that and having the car insured now. So I have a mini-van cause of the kids.
A: yeah
I: and um the Toyota Corolla, as much as we can use the Toyota. And the truck sits I mean that was the main reason for getting the car.
A: ok, yeah interesting. So the next question, we kind of touched on a little bit but I'd like to hear more about is what appealed to you about the different cars that you have?
I: Mm hmm so the van was because I have three kids and just transporting and we have other kids go with us so we just needed a bigger car. I had a Dodge Stratus before that but it just with three kids and if you wanted anybody else it was just getting compact with car seats and stuff like that. So um, that's when we went to the van. And we had a truck prior to that again because we had a camper. And then the van is an 02 and we'll keep that pretty much until it dies I think just because of economics. And the car we got last summer—(phone rings) Uh I think I need to get this.
A: oh sure
I: I don't know who that is….so the car we got last summer when we got the truck because the truck gets about 8 miles to the gallon, so that was quite a surprise for us. So that's when we decided that we needed to buy a car outright. We wanted an older car so we didn't have to put a lot into it and we wanted a car that had decent gas mileage so….
A: interesting, ok so my next question is did gas mileage play into your decision to get any of those cars so it sounds like it was at least for the Corolla?
I: right, for sure absolutely for the corolla I mean we get like 30 miles to the gallon…
A: wow
I: so you know compared to 8, and you know for us in town…it's not as convenient, my husband is also in the international guard so he has to go to great falls and he has driven the corolla sometimes but its just not as comfortable as the van, but uh, most of the time we use that as commuting vehicle for sure.
A: yeah, um and what about different financial aspects, did that play into the decisions on the different cars? I mean I guess in terms of gas mileage you mentioned…
I: Um yeah for the gas mileage it did, and it was an older car so we bought it outright so we didn't have a car payment or anything like that. So that we definitely took into consideration. And same with the van I mean I'm pretty frugal when it comes to things like that so I wanted to make sure that we had our payment that we could afford and I always pay extra so we can pay it off early. So um, definitely price is always a an issue with us. And I think the next vehicle will probably be price and gas. I mean think its both that are going to go into effect because I mean gas is just going to keep going up.
A: Yeah, it's expensive. Um, so I was just going to ask to ask you actually—your good your anticipating my questions. I guess that means they make sense? So, I'm wondering if you were going to buy a new car what would you get?
I: I really don't know what's out there I haven't really shopped. But I would definitely buy, because of the family a four door. Something economic I mean definitely, I try not to buy brand new because it loses its value but within a year or two so it still has a warranty. But gas mileage is going to be a big deciding factor for what we get for sure.
A: interesting. In an ideal world, with no constraints how would you like to get around?
I: well, you know it's hard for me right because of kids um I would commute to work for sure. I'd do the park. Because I pay for parking. So if I do the park and ride I wouldn't have to pay. I could pay a commuter (parking rate) because that's a lot less expensive. Then I could drive part way and ride my bike so I wouldn't have to worry about parking. I just don't feel I can do that right now with my family

because I'm the primary person that if somebody gets sick at school or something. But when my kids get older I plan to do that.
A: ok, interesting And so the follow up on that is what would have to change in the world for you to be able to get around like that. It sounds like it has mainly to do with kids or?
I: The kids just need to be a little older so that if they do call and their sick or something I can get there in half an hour or a little bit longer. And their activities, you know I have hustle out of work and go hurry and feed them and hurry and take them. So if they were able to drive themselves than I could give up my car for them and I can use a bike or something.
A: so I'm also interested in home energy use, I just want to talk a little about that. So, do you live in a house or an apartment?
C: In a house
I: And are you guys renting or buying?
C: buying, mmm hmm.
I: And where in Missoula do you live?
C: Up on 56th street? Do you know where that is? It's up on the hill.
I: like up on the south hills?
C: not the rich south hills, not that part, but you know the k-mart, behind there it goes up? It kind of dead ends and to the right a little bit.
I: ok, I know where that is. I bet you have nice views, it's pretty
C: yeah, we do.
I: And so what appealed to you about the house you live in now?
C: we moved not very far, about 3 years ago. And um space, because we have three kids. My two younger ones were sharing a room and they were getting old enough that they needed their privacy. So,
I: they are a boy and girl right?
C: Yeah, we wanted their own rooms. And the school district was the same, so we wanted to keep in that same school district. And this had an amazing yard. And we are outside often. And a lot of times you can't find big yards and so we really liked that we had a big yard.
I: yeah that's great, that is hard to find. Um, so I'm wondering about energy use in your house. Are there any concerns or issues or thoughts that you have about energy like either heating or cooling or electricity? What comes to mind for you on those issues?
C: Well when we bought our house we did an energy audit, just to kind of see if we were losing or what we were doing. We put more insulation in cause they advised us to, we put new windows in all of our windows upstairs and down. And currently we have a gas fireplace that is not really functioning and to be honest you can feel the air coming out in the winter time. So we're in the process of doing a gas insert to also help with our electrical bills and I think so that we're not losing any of the heat out the chimney.
I: yeah, interesting.
C: we have a gas insert or fireplace downstairs too it's a stand up. We'll use that sometimes too but mostly we use our electric. And um we're pretty conservative. We have a timer on our thermostat so we turn it down when we're gone during the day and we have our home mode our evening mode and our weekend mode so we're pretty efficient with that. And we have blankets. [Friend] makes fun of us with that (laughs. When company comes we will turn it up but for the most part we have sweatshirts on because we don't want the heat bill. And it's not that it's uncomfortable it's just we don't have it toasty warm in there. We definitely think about that. And we do have an air conditioner, its central air.
I: oh, ok.
C: but we are also pretty cheap with that too and so maybe three times this year we turned it on. My husband cleans it out but for the most part of the time we use fans, so again to keep down the costs.
I: So it sounds like primarily these are to conserve on the energy bill. Is that right, or are there other kind of thoughts going on in your head in terms of how to decide about how to use energy or what appliances to buy or?
C: Yeah, most definitely we got a new dryer and we wanted to make sure that was and a new fridge and that was because the other one was running constantly. I mean it was doing ok but it just was an older

fridge and so we decided to get a new one because of the energy costs and the dryer the same way it just wasn't working well. So, um I think we do make conscious efforts with that. All our light bulbs are the squiggly ones. So we've changed out all our light bulbs in the house so their like that. Um and we have lower watts of light bulbs. And our kids are pretty good about shutting them off when we're not in the room. So we try to be pretty efficient that way.
I: yeah, great. Do you feel like you notice a difference, like you can tell when things are going up and down?
C: Yeah, we definitely can because of the company. And we are fast shower takers so we really watch the heat with that too. And we wash our clothes in cold water and we hang them for the most part. My husband built racks to hang them on so we use the dryer to kind of fluff but we don't dry fully. And I'll put the racks outside in the summertime. But um, my son calls us cheap (laughs). But I don't know we've just always done that and we just feel we should do that. Plus our appliances will last longer too, the less we use them as much and we take care of them.
I: yeah, so how did you get started on all of these conservation things, you said you have always done it, did you grow up that way or?
C: yeah I think so. I mean my parents they had a clothesline. And when I was in an apartment before I met my husband I mean it just was an economics thing I just saw one and I would hang things up on chairs, my parents helped me buy my first dryer. And I just did want to have a big electric bill So I just kind of converted and then we got married we just kept doing it.
I: yeah, so do you think your husband also did that kind of stuff before he met you?
C: Yeah
I: so it was important to both of you.
C: Mm hmm
I: and what would you say motivates you to keep going. You know keep kind of taking all these actions and keep up with them?
C: Well you know a couple of things. We want to save so we make sure that we can keep what we have, you know to make sure our expenses aren't outweighing our what income is. It's easier I think to use the dryer and easier not to worry about the lights but we want to make sure that we keep it and that our house is good for us later on. And I think that the money is a big thing for us too. I mean I'd rather spend the money on something else. I mean, my kids are in braces I would rather put my money to better use than the lights being on or the dryer being used when it takes 5 minutes to hang them up.
I: yeah that's interesting, makes sense. Ok I got off my list here, it was good though, perfect. Oh, how do you interact with your friends and family on energy issues or transportation issues. Is it something that comes up very often in conversation or, do they respond to you and the way you do things at all?
C: not really, I mean our friends will tease us because it's cold in the house and we'll turn the heat up for them. And they tease us about the drying because you know they think it's silly that we're doing that to save 35 dollars or whatever, they just think they would rather not waste the time.
I: that's a lot though actually, you know, you can tell if you're using the dryer a lot, you can see it in your energy bill?
C: Absolutely, I mean that is multiple with many things. I mean we have underground sprinkler so we also try to keep track of that. So what I do when I budget, I'm a big budgeter, I budget our heat bill and then I budget the same amount and then I do with water. So I'm not on a budget bill. I know a few people who do that, so they pay one price whether it's winter or summer.
I: ok
C: I feel that that wouldn't be good for us because ours varies so much because ours is pretty low compared to others but then our water goes up in the summer compared to our heat so then I budget the same dollar amount but in different areas, so our heat goes down but our water goes up. Budget billing is big for a couple of people I know so they just pay a flat fee winter or summer and I just don't feel comfortable with that right now I mean it might go down some but then I would not have my budget for the water.
I: yeah, interesting.

C: but talking with people I mean there isn't whole lot, I mean my sister I think is the complete opposite of me. But we don't really talk about it that much. I mean we talked about it with my parents buying the vehicles and about saving money but we haven't really discussed it in detail. So, my parents have all solar, their whole house is solar and back up by propane.
I: oh interesting.
C: but their fridge is propane, their stove is propane. Their hot water heater is propane and then they have solar for everything else with a back up generator.
I: and they live in Darby?
C: They live in Sula.
I: oh ok,
C: they have some panels and they had somebody help them do it. And they have abig battery system. I don't know exactly how they do it.
I: oh, interesting. And so, have they always been into having alternative energy or?
C: No, not really, they bought a place when I was still in highschool, so like 27 years ago and they didn't have power and they had 35 acres and it was too expensive to bring the power to them. So they started off with just a hunting cabin and then they decided to move up there and sell their other house. And they didn't have anything basically besides propane and they have a little wood stove. And then my dad got more and more into solar and it's been about 5 years that they've been into solar. And they had somebody help them out a well in this last probably three years ago. They had a compost potty before that. So now they've switched that out. It was all just financial for sure. So the amount of money the invested, and they got a tax credit for that. I think they said it will be 11 years that they'll go energy free before they start having to put anything or money back in for batteries or new panels or anything.
I: wow, interesting, so it seems like you were saying you grew up like that, I can see how your parents are frugal.
C: yeah, they're pretty conservative and they did not have to pay a whole lot either because they were on a military base so housing was pretty much provided for you. But still when were growing up we shut off the lights, even though we weren't paying the bills.
I: and did you guys talk about it all as kids, do you have a sense of where that motivation came from?
C: I don't uhhh huh, I think it was more money, but they really didn't have to worry about it. We never really talked about money when we were kids.
I: yeah sure, that's interesting. And um in your experience like how did you learn about all these different ways you could be energy efficient or how do you think people learn about those things.
C: I don't know I think some of it you know people watch the news and you know gas prices are going to go up and the oil spill and all of that. And you have to be careful so you know those decisions are big but gas prices aren't going to 99 cents anymore its going up. So I think the older you are the more you get exposed to different situations and um examples kind of that you know I had no idea that that truck we bought was going to be so bad for mileage. I knew we needed a bigger truck for the towing and hauling but when that hit we were jst like what are we going to do. So some of it is just like learning and then punting and being like we need to get a car and you know that's what we decided.
I: yeah, interesting.
C: In Montana if it's older than 10 years you can put a permanent plate on it. So you know we pay a one time fee and pay for the licensing up front and literally it's 10 dollars extra for the insurance because we switched the other one over. So over time we'll have to see how it saved us. We haven't done that though, I thought about doing a spreadsheet to see how much it saved us for the vehicle plus the licensing and we had to fix one thing for the light inside but other than that we haven't done any maintenance besides the oil you know how much would that change is we paid the 8 miles a gallon. So I was going to see you know how many years before we break even or start making money.

N1.3 Amy
A: how do you in general get around town?

I: Uh, with my car, yeah. Well I guess I don't really go around town that much. It's just really commuting from home to work is what I do. I do have to come into ton on the weekends when I have to do laundry because with being solar we don't have a whole lot of electricity up there. So I still have to come in for laundry. But I don't really spend a whole lot of time in town. I kind of like being up in the woods and.
A: Um, where do you live?
I: Potomac.
A: oh, is that up in Seeley?
I: On the way to Seeley, it's up the Blackfoot. Most people when they think of Potomac think of that little valley town right off the highway. I'm not there. They have electricity there. I take a turn and go up into the hills where the ranchers are and I'm probably about 4 and half miles from the highway. And yeah the power company just hasn't invaded that little corner of the world yet, I hope they don't either.
A: yeah, well you've got a set up so that's cool. What kind of car do you drive?
I: It's a little Subaru wagon, yeah actually I just got it in November because it has better gas mileage than my old 4-runner had.
A: oh, ok. Well that was going to be my next question, what appealed to you about that car?
I: That was it, yeah I definitely wanted better gas mileage with that long of a commute everyday.
A: yeah ok, um and so I was also wondering if gas mileage played a role in your decision of what car to buy. It sounds like it did. Anything else like..?

I: Yeah well to get in and out of where I live in the wintertime you have to have 4 wheel drive, you're not getting in and out of there with a two wheel drive so I had to have something with all wheel drive and enough cargo space for my 160 pound dogs. I have two mastiffs.
A: oh wow.
I: they're huge so. They're ponies.
A: yes, they are, they're very pretty dogs. And so if you were going to buy a new car, you kind of just did, but what would you get?
I: I would really love a hybrid. You know something that's not guzzling up so much gas and making so much pollution. I just don't make enough money to buy one of those.
A: yeah, sure. And so with the hybrid is it primarily the gas mileage that appeals to you or?
I: well trying to reduce emissions really. I mean that's where I'd like to be, you know just not spitting out all that pollution.
A: yeah sure. That's great. So in an ideal world—this is kind of a similar question—how would you like to get around if there were no constraints? What would your ideal situation be?
I: Hover (laughs) a hover craft. I would love that. (Laughs) I don't know just anything that would get me through the snow and the ice to my house um and just not puke up emission all over the place. I don't care what it looks like, how pretty it is, ugly it is I wouldn't care. Just efficiency.
A: And where would you say your interests in kind of being low emissions comes from?
I: You know I don't know I think it's just kind of my whole um outlook on just just cleaner air. You know there's not gonna be…my kids gonna have kids and I don't even know what this planet is going to be like when that kids an adult and it's just kind of scary cause we're already breathing poison constantly. We're eating poison with all the stuff their putting in the food that we buy at the grocery store. So, I'm looking out for myself first. You know we eat wild game. Bill hunts. So um we try to keep a lot of that stuff out of our lives but you take some of it in. But you can't help it, you take some of it in with the environment the way it is.
A: yeah, that's interesting. Have you made any other big decisions that relate to transportation, like where you chose to live or just any other things that come to mind that haven't touched on that relate to transportation?
I: regarding transportation?
A: It's fine if there's not, I just want to make sure I don't miss something.
I: no there's really not I've been kind of lucky to live near where I worked here in town, up until I moved far away. But up until I moved to Potomac I was always kind of lucky to live within a few blocks of

where I worked. So, yeah I didn't have to drive around a lot. But that was just luck. It wasn't real planning.
A: So. I'm gonna shift to home energy use. I know you've got a lot of interesting things going on with your house and energy use. Do you live in a house, it sounds like?
I: yeah, it's a little log house.
A: And do you rent it or are you buying it?
I: Yeah it's bought.
A: oh great.
I: it just sits on a little 20 acre plot.
A: oh that's nice.
I: yeah, it's not huge but it's enough room for us.
A: and it sounds like it's about 20 miles from town?
I: About 25.
A: oh, that's great. I bet it's really pretty.
I: yeah, I mean it doesn't sound like it's that far away but you feel like you're in the middle of nowhere out there.
A: that' s great. So, what appealed to you about this house and this location?
I: I like the idea of being off the grid. Of not being dependent on the electric company and that kind of thing of having to pay for power. And at first, we just put the solar in about 2 years ago, I think so before that we just had like a pair of batteries that we were keeping charged so we could like run the water pump and keep the water running through the house. Then we put the solar in and that runs the water pump but yeah, it was just I think it really goes way back I used to fantasize when I was a kid about living in the 1800s. You know where people were just like hands on with their life. It wasn't all automated. So when I found that here I just had to be there, you know. I was in love immediately.
A: yeah, that's great. And how did you get started with um the decision to go off the grid. Did you find the place first, or were you actively seeking it or?
I: No it was, Bill had already had it. So when we met he brought me up there and I just fell in love because I knew it was something that I had always wanted. And I wasn't I guess consciously aware that that's what I wanted but once I was introduced to it I was just in love (chuckles).
A: that's great, cool. So, just tell me a little about energy in your house, how do you handle energy use in your house are there any energy use issues that are top of mind?
I: Um, yeah, let's see well the refrigerator, because we did not have the solar until a few years ago, so that runs on propane. We have a big propane tank. And that was our lighting too. And once we put the solar in we didn't go out and buy a bunch of electronic appliances. We like living a simple life. Um and I have a lot manual kitchen tools that I love to use. There was one major purchase we made and that was a chest freezer because he does hunt. And so we needed some way to freeze the meat.
A: yeah
I: so that sucks up a lot of power. And in the summertime it's not an issue with the long days but then the winter rolls around and it just is constantly draining the batteries. So as soon as the temperatures reach freezing point where they are pretty much staying at you know freezing point then we move everything out of the freezer and we unplug it and we move everything to a big giant cooler on the north side of the house and it stays frozen out there for the winter. So that's about the only big thing that we have to deal with as far as energy use. But yeah, it's really interesting.
A: yeah, it's really neat.
I: but then we still have the power is stored in battery bank, you know so as long as we keep that charged, and with the freezer we can't we would have to run the generator to keep that charged, and we don't want to run the generator cause then we're just using up a bunch of gas. So that's the only reason we move that outside. And then we have a little pump in the house to push the water through the pipes. We're not hooked into a well, we just had a well drilled. Our water supply is funny. We were hauling water up there. And pumping it into a 150 gallon tank in the house from there it was pumped through the house with a little water pump like you would find in an RV.

A: oh, wow.
I: yeah, and that was just powered by the battery bank that we had that was running off the generator before solar and now runs off solar. It's funny. We have the well drilled and in fact we have a water line going to that tank in the house now. So we're still working off that tank. It's weird. I don't know if I'm making any sense.
A: yeah, it's very interesting.
I: so I think we're going to keep it that way because not having, not being on the grid our house is set up for 110 and the water pump from the well won't run on 110 it has to run on 220 so he bought a second generator that can power a 220. So we have to run a generator to get the water pumped from the well which is why we're still using that tank. So then we just go kick it on. So instead of every time we want to use the bathroom or the kitchen sink or take a shower instead of having to turn the generator on to use that we just kept using the tank. So we just have to use the generator long enough to fill the tank. And then we don't have to worry about it until the tank gets low. So, yeah, I know it's a whole process (laughs).
A: Interesting, it sounds like you enjoy living off the grid, just kind of tell me a little more about what keeps you doing it. It sounds like it's more work than just a regular house.
I: It is, it is. There's a lot of planning that has to go into it. We have to go out in the summer time and find dead trees. And Bill used to be a logger, so we take them down and take them home and spend the summer splitting that for our winter firewood. Because we have a woodstove, that's our only heat. And it is work, I think that's what I enjoy about. Um, I don't it's funny because a friend of mine said, see we don't have television, so a friend of mine said when we first met and she discovered that she said well what do you do? And I said, well I don't call sitting on my butt staring at a piece of electronic equipment doing anything. So you know, she's like ok, that makes sense. So it's just having those things to do to keep the house running. That appeals to me. It doesn't appeal to everyone. There are a lot of people who like to have automated everything, an automated house and just sit back and kick back. But that's just not for me.
A: yeah, interesting.
I: oh, that's my phone.
A: Do you want to get that?
I: no I don't, actually there's my girlfriend that I was just talking about.
A: So, uh, it sounds like if I'm kind of understanding what sort of motivates your willingness to do all the extra work and live off the grid, it's partly because you actually enjoy doing those things?
I: Yeah I do.
A: and also the desire to be independent of the electric company you said, can you -
I: yeah and there's a certain amount of satisfaction with keeping your house going with your own two hands and I like that. I like being hands on, but I'm sorry I cut you off.
A: no, no that's ok I was just trying to make sure I was understanding what keeps you at it.
I: and yeah, there's just that sense of satisfaction that I'm doing this. I'm keeping us warm, I'm feeding us and – (referring to phone) she's just not going to leave me alone. Oh no it's just a voice mail. Um, yeah so just the fact that I'm doing this, we're doing this, he and I on our own. It's just sort of a feeling of independence.

N1.4 Sonya
I: Ok, maybe we could get started on transportation issues? Um how would you say you transport yourself around town.
S: When you say me, who are you talking about?
I: well, you know, that's a great question because you have you and your family. So I guess I would say you know getting yourself and your family around town, what are the main sources of transportation you use?
S: well, so if it's just me and I'm going someplace that I don't then have to coordinate other people I use the bike. But since I try to piggy back many activities, I end up using our Toyota Prius, which looks just like Laurie's same color. In fact we were interviewed by early on in the Prius life by one of the news

channel. They had their person in the car with me interviewing us and then putting it on TV showing a family in a hybrid.
I: oh interesting.
S: yeah, pretty funny.
I: So my next question was going to be what kind of car do you drive. You have a Prius?
S: Yeah, we have two cars. But I'll go back to transportation, since we are a family. We also have a tandem bicycle. So scott does usually is he bikes to work we live up in the rattlesnake on his tandem with the possibility that there is one child that will be doing an afterschool activity that I would have dropped off that he then picks up on the tandem and rides home. So we have two cars. We have the Prius which is what we use almost all of the city driving. We also have a VW vanagon or one of those things.
I: yeah, like a westfalia?
S: yeah, one of those pop up tops that can seat 5 kids in the back. So this afternoon I'll be using it because I'm picking up 5 kids at school. So there are times we use that. And then when we go on road trips we use that.
I: great, and what appealed to you about those different cars.
S: well the euro van I think it was because I grew up with a pop up van so it was kind of fun to have one and we needed a vehicle that would fit more than three kids. We're trying to get rid of it. We're hoping that the mini van will come out with hybrid. Toyota has been talking about it for a while and I don't know why they haven't because I would think there would be an incredible market for it. And then the Prius, for the gas mileage and fuel consumption. And I know a lot of people are buying it for the price of gas, we were doing it for the environment.
I: great. And when you say you are doing it for the environment are there any particular issues that were in your mind or your thoughts in terms of what the prius would help with or just in general?
S: in general, I mean petroleum extraction, global warming, yeah. I mean trying to take as little form the planet.
A: Yeah, great. My next question is did gas mileage play into your decision at all?
S: Well, yeah it did with both. Meaning we're aware of it. The VW does not get, I think it gets the best we get is maybe 25, 28 on the highways but it can get a lot less, around town it gets a lot less. So we were conscious of it and we looked for mileage but we did not get a car with great mileage. And the Prius obviously was all for gas. It is wickedly tight. We have tried to do a road trip in it, we have three kids and two dogs. And we have tried to do it, but the 7 of us in the Prius is not very pretty.
I: oh yeah, how about financial considerations, did that…
S: um…
I: could be fuel costs or….
S: fuel costs was not the reason we thought about that. The Prius is an expensive car but uh we thought it was worth it.
I: yeah. So I'm wondering in an ideal world if you had no constraints, how would you like to get around?
S: I would like to be using more public transportation. I think Missoula is wickedly lousy on their public transportation and it's really an issue right now because my daughter goes to Hellgate, gets out and does after school activities and with the bus system she would either have to walk to transit station and I don't see why Missoula doesn't have more bus routes where you don't have to keep transferring. So that would be the ideal that we would use the bus. We use the bus sometimes but it's not convenient because from the rattlesnake you have to go down to the transfer station and then…Ideally we would be biking and using public transportation. And I don't know, in Europe you could do it. But I don't know how small towns could change. I mean going to the good food store is a royal pain. Ideally I would live like they do in Europe. Having everything downtown. Being able to walk in take a bus and do more local quick shopping rather than needing a vehicle once a week and filling up a car.
I: yeah, that's interesting. Have you made any other big decisions that relate to transportation. It could be like where you decided to live or travel decisions or?
S: well yeah, we used to live a block from the university, which made it easier for scott and I was working in Sussex then, so it didn't really matter. But it would have been easier because the university is centrally

located. But we knew what we were doing there. In terms of travels, no we haven't really changed any trips. Um because of transportation. We are very aware of the effect of planes and global warming. But our family is all back east and it doesn't effect it, I mean we take the planes.
I: My family is from Michigan, so I'm in the same boat. So, to switch to energy, it sounds like you live in a house?
S: we live in a house.
I: and are you buying it or renting it or?
S: We built it.
I: Oh, ok great. Um and you live in the rattlesnake then?
S: We live one block south of the Pease farm.
I: oh, ok. Can you tell me a little about energy use in your house. Are there any particular issues or concerns related to energy and your house.
S: That's a great question. You don't know about our house.
I: No, I don't know. I just know Laurie said there were interesting things related to energy and your house.
S: We don't believe in building houses. I mean, this was an infill. There was already a foundation there. It was in a pre-existing neighborhood. They were going to be building a house there. And we were talking to someone about it and said well how many bedrooms yadda yadda so we went with this guy who owned the lot and was a contractor and we were his first green house. So it was kind of an interesting experience. I think he got a lot out of it. There was trial and error on us. So we ended up paying more. It was his property. The only way we were going to build a house, the only wasy scott was going to build a house is if we built a green house. I mean using as much reclaimed wood as possible, wool carpeting, less toxic stuff. But then in terms of the actual, there's the energy that goes into the house and we tried to reduce our use of resources there. But the only way, scott said and I agree, in order to be building a house we have to be doing something that makes that house different. And so we have ground source heat. We have no gas in the house. We have solar panels. And so all our heat in the winter comes through the ground source heat, I'm assuming you know?
I: yeah, is it like a ground water heat pump?
S: Yeah, so it uses a lot of electricity because when it gets really cold, to boost up the ambient temperature of the water, so the well, we have 5 holes that re 275 feet deep and I believe the liquid comes back in at about 55 degrees. So when it's sunny, the solar panels can bump it up. Otherwise, we use electricity is required form outside the house. And in the summer we are feeding back into the main line. We don't use, we ond't have the heat in the house. We do sometimes, you can run it in reverse and air condition the house. So we will do that sometimes but still we don't have any money, I mean we don't pay any money because that's on those bright sunny days. But we're not producing a surplus then.
I: Interesting. And how would you say you got started on having this green house and green car?
I" I think same as what I said, whatever I said about the Prius. Just an awareness of how much we're taking as the whole world but particularly as Americans from the planet and the shape it's going to be left in.
I: Interesting. And how do you feel like you got that, I mean there's lots of people who don't…
S: those values?
I: yeah, where do you feel like you got those values.
S: I think its family. It is always interesting to meet people who either don't believe or don't' care. It's hard for me to see where they are coming from. But I mean, one is you just might not belief it's true. I can't believe that if someone believed what is happening to the world is happening that they just would not care. And for us, I mean we were both, particularly me, but both of us were raised in an aware family. Aware of politics, aaware of human rights, and aware the environment. And part of the environment thing was I grew up in Pittsburgh but we went to Colorado and Utah and Alaska backpacking so there was a love of the outdoors that was cultivated in the house hold. Which I'm sure I think if you care about enjoying the environment you're more aware of the environment.

I: yeah, yeah and what would you say keeps you going on the efforts of being green or taking car eof the environment?
S: That's a hard one, I mean that's who we are. I feel internally guilty when I'm driving the big car around except I know that there's times I have to. It's the society we live in. So, its internally motivated.
I: I's kind of part of your idnetituy maybe?
S: yeah, it might just be part of my blood. And Scot was not rasied at all as alternative as I was and he's crazy in his obsessiveness to be on the bike. To me, we don't want to get into maritcal disputes here. But sometimes it's just the logisitics. I mean, why are going to take the bike and then you've got to go there and there and there. He's sometimes just thinking environment and I'm thinking practicality.

N1.5 David
I: So, how do you mainly get around town, you know how do you transport yourself, what are the main strategies you use?
D: Sad to say, we primarily drive.
I: but you have a prius so you're a pretty virtuous driver.
D: yeah, yeah, we do use bikes a fair but, we used them more before we had kids. I don't know if you have kids, but when you're transporting kids you end up driving more. It's the path of least resistance. If you're dropping the kid one place and going somewhere else. (wife) is actually quite good. She'll sometimes put a bike on the car, especially when we drove our daughter to preschool and use the bike for daily errands and put the bike back on the car. But I would guess that 80% of our around town transportation is private vehicle.
I: yeah, and I would guess that, I'm not sure what the bus route is around here, but I don't know if it comes out here?
D: The bus route is not that bad, you know this Lincolnwood neighborhood behind us? It goes to the top of that and you can cut across a park and get to it.
Wife enters – basic introductions.
I: so how do you usually decide between your different transportation options, you know if you're going to take that bus, or if you're going to ride your bike somewhere, are there certain things that trigger one or other?
D: yeah, yeah, I guess this is true with most people, it's kind of unconscious, you just assume you're going to take the car,
I: yeah, I know I do too, that is my default too.
D: as far as a conscious decision making process, if I come up with something I'll get back to you. But the default assumption is we are probably going to drive and we have the conflicting default belief that we will try to minimize driving, but you know the one that actually gets things done is the one that usually takes place.
I: I already saw your cars, so I kind of know what you drive. But it looks like you have a Prius and maybe a Toyota truck?
D: Yeah, actually it's a Nissan truck. (note, small Nissan, like a Ford Ranger size).
I: and when did you buy those cars?
D: we actually bought both of them about 5 months ago, February or March I think.
I: oh, so both pretty recent. So, if you're willing to say, sort of what appealed to you about both of those vehicles?
D: Um….(pause)…so in the Prius, it's the mileage and the carbon output were the big factor. Our previous attempt to drive in an environmentally friendly way, was we bought an old diesel Mercedes as we were making Biodiesel.
I: oh wow!
D: But that was an old not very reliable car so we also have a Volvo all wheel drive wagon, which was getting old anyways. It was safe and reliable. But it got maybe half the mileage the Prius gets
I: oh wow.

D: Yeah, a very heavy all wheel drive car. Uh, and then there were some complications with the biodiesel brewing which is mildly toxic, so we didn't really want to do it here. So for a while the processor was at the Peas farm and we were letting some other people use it. And that worked out pretty well for a while. But then people made messes and they got tired of having it at the Peas farm and we got evicted from there. And a combination of things. The Volvo had almost 200,000 miles on it and we were not having the time, especially after getting booted from the Peas Farm, to do the Biodiesel brewing. So the Pruis seemed like a good compromise. It replaced the safety and reliability of the Volvo and to some extent the environmentally friendliness of the home brewed Biodiesel.
I: how did you get into brewing Biodiesel?
D: Let's see if I can remember this. I think in large part it was a response to the Iraq war which we opposed pretty strongly. And felt like there really was blood involved in protecting these sources of oil and that we should do what we could to move away from it. And so, the gathering used veggie oil and turning it into fuel seemed like a pretty good thing to do. And it is a good thing to do. But it's not really a viable solution because there is not enough used veggie oil in terms of powering the US vehicle fleet its just a drop in the bucket. And it's a significant inconvenience if you're actually going to do it yourself. I'm sure you've run into that already and a lot of interviews will be about balancing convenience with doing what you can do.
I: yeah, yeah but that's great, you're doing a lot more than the average citizen is doing so.
D: we burn plenty of fuel.
I: that's one thing I like about Missoula, I used to commute 45 miles one way, so at least Missoula I a pretty small town so even if you do drive to commute, you're not driving that far. It sounds like gas mileage did play a role in your decision to buy the pruis and environmental factors. How about the truck?
D: actually similar factors, for a work truck it gets pretty good gas mileage. We felt like we needed one that has four wheel drive.
I: yeah, yeah and I could see how you would need a truck for work. Did you decide on those vehicles on your own or did you and (wife) decide together?
D: Oh, we decided together
I: and did you both have a similar point of view? Or?
D: yeah
I: So if you going to buy a new car –which you just did recently—but if you were going to do that again, what would you get the same things or other things?
D: I'd say we are pretty happy with those. We would look into a plug in hybrid probably. Wife's dream would be to get a pug in hybrid with solar panels.
I: yeah, that would be great. I feel like maybe there are kits you can get to convert a prius to a plug in, but then maybe that would void the warranty…
D: Well, voiding the warranty is not as a big a deal in fact the warranty will be up soon. It's mostly the effectiveness, there's a big tradeoff in the weight from adding additional batteries, which decreases your mileage fairly significantly, and the boost that you do get from having the extra batteries is, depends on who's doing the test, but Consumer reports who is probably fairly objective found that there was a pretty small benefit. And if you take it on a long road trip, those batteries deplete their charge in the first 50 miles or so and then you have to carry the dead weight for the next 1000 miles or so. So, you actually lose on that situation.
I: yeah, that makes sense, you've really thought that through well. So, in an ideal world are there ways you would prefer to get around, in an ideal situation?
D: I think ideal would be all electric with energy that is generated from solar or wind, or I don't know if you want o call hydro a clean energy source but…
I: definitely lower carbon…
D: yeah, lower carbon, in terms of broad environmental impact, I don't know that there is ever going to be anything that is entirely clean. But I don't know electric vehicles and fast recharge, and battery swaps. I think there is a group in Israel that is working on a series of battery changing stations where you can change out your batteries.

I: yeah, just like going to a gas station…
D: and much better mass transportation.
I: so from your perspective, what would have to change in the world for that to happen, all electric cars and good mass transportation?
D: well the price of gas would probably have to triple, or quadruple and then I think it would happen pretty fast.
I: yeah, right on. Do your friends and family have similar kinds of cars to you?
D: Ah……thinking let's see, my parents tend to drive Japanese cars probably as much for reliability and expense as for mileage, there not really high mileage cars. (to wife: what do your parents drive?)
W: My mom is trying to get my dad to sell the truck and buy a hybrid.
I: all right, you're influencing them.
W: And my sister just got a hybrid because I told her too. I gave her the guilt trip. But this is your interview (said to husband)
I: Yeah, that's true, I'll hopefully get your perspective on another day.
W: But friends, they have everything from the SUV next door to lots of Pruises.
I: so some of your friends do have hybrids?
D: yes.
I: so have you made any other big decisions around transportation, like deciding to live in this town, or where to live or anything else that is related to transportation that we did not cover?
D: Yeah I guess so, just in terms of where we live. When we decided that we would build a house are choices seemed to be. Well, most of the eco-friendly, recycled houses get built in outlying areas. Because you don't have to deal with building codes and its a little easier to have a weird house in those locations. And we considered that but we also realized that Missoula would likely be where we would work and did not want to set ourselves up to commute so in terms of the recreational opportunities and the environment we wanted to live here in the upper rattlesnake seemed like the best choice. I mean we are really only 3 miles from the University. Although I've already told we don't bike as much as we could, we specifically chose this a bikeable distance. (Wife) worked on campus for a while and biked and I had a job with the City of Missoula for awhile and about 4 days a week I commuted by bike. So we did do that once.
I: that's great, well as you said, it's really hard to do that when you have kids. If you're going one place and their going another place, or they have a lot of stuff….its hard to do. So your house is clearly very cool. There is something very interesting about your house that you've alluded to a few times. It sounds like it is very energy efficient or has recycled materials or?
D: Um, yeah so it's what people often call a strawbale house, so the exterior walls are baled straw, super insulated everywhere, lots of salvaged recycled materials. Owner built, us with friends and family.
I: oh wow, it looks really cool really great. So how did you kind of decide on that, on the straw bale, did you know about it from work or?
D: well I think because we had been in east Africa for a few years, and when we came back to the states things just seemed so wasteful to us, in terms of what's thrown away. Um, we had a little bit of savings, not as much as we probably should have, but this was early to mid nineties and it seemed like the real estate market al.l across the west was on this steady climb and people like us felt like pressure almost if we should buy something now or we won't every be able to afford to. Plus kind of having sort of a nesting instinct, we had been traveling all over the world and basically an itinerant life style for ten years or more and we were ready to settle down and we had the assumption that you would always do things in the most environmentally friendly way. So we came back to the US and we were looking at the sort of recycled dirt-bag technologies for building a house and the two that we came across that seemed like they might work for us were strawbale building and the kind of earthship homes, I'm not sure if you're familiar with that?
I: I'm not.
D: Um, rammed earth construction and a lot of people do them with recycled tires, er uh, tires
I: as sort of the structure your building around or?

D: yeah, so they stack tires like bricks and then pack dirt inside them. It's great for a home in a sunny location because you get a lot of thermal mass in your walls. They are typically built with rammed earth walls on three sides and the south all glass. So the rammed earth gives you enough thermal mass to store that amount of solar energy. So if you live somewhere like the front range, where the sun is really out all winter, it can be a great way to go, but it seemed too labor intensive and too little pay off for the passive solar design. We did try to incorporate passive solar in this home, to the extent that Missoula has sun in the winter.
I: or in the summer, at least this summer (laughing), it was kind of a cold summer. Cool, so the walls are pretty thick or how does the straw bale work
D: yeah, so this south wall is not a strawbale wall, because the bigger windows are a little bit hard to float in a strawbale wall, but it is a 2 by 6 wall with an additional rigid foam 2 inches of rigid foam, so that wall is super insulated as well.
I: oh wow.
D: yeah, but basically you stack the strawbales you stack them like bricks, pin them together with rebar, strap 'em down and anchor them to the foundation then they get cement based stucco on both sides.
I: wow, interesting. So you started building this is 1994?
D: We bought the property then and I think we started building in 1995.
I: so this is the house you moved into basically when you moved to Missoula.
D: more or less, we rented a house while we were building this.
I: And so, this probably going to sound like a silly question, but it is a big issue in energy use, heating and cooling. So, I'm wondering how do you decide where to set your thermostat?
D: where to cite it?
I: where to set it, like what temperature?
D: Oh, ok, we set it at about 61 I think.
I: And do you have a furnace or how does the heat work in your house?
D: we actually retrofitted four or five year ago so there is heat under the floor and a high efficiency boiler.
I: so there is water pipes running in the floor, yeah, I think that is what our house has too. And so, do you have air conditioning?
D: No and we don't need it the house is really cool in the summer. We have shades on the outside of the house, you can see one right there. So we pull those down to keep direct sunlight from coming in the house. It's as cool as if it were air-conditioned.
I: ok, cool.
D: And then we open it up at night. There's loft up there in that room. And we have a fan to blow out the hot air at night. Then we close it up in the morning.
I: So, 61 just, because that's where your comfortable?
D: yeah, that's where we're comfortable I guess, we'd probably be more comfortable at 66 but.
Wife (W): Is this setting the thermostat?
I: yeah
W: probably closer to 63 when we're working here. Don't you think?
D: I don't know, 63 something like that.
I: yeah that's still pretty cold, a lot of people have their house at 70 I think.
D: yeah. I mean it's perfectly comfortable.
I: so it is sort of an energy efficient decision then?
D: oh yeah.
I: so we've talked a lot about how energy efficient your house is. Are there other things you've done in your house to reduce energy use. You've already done a lot so I'm not implying you should have done more but…
D: no, no I did not take it that way. Ah, compact florescent bulbs, um fairly religious about keeping lights off when we don't need them….
W: no dryer

D: no dryer. We've done a little bit of testing with a watt meter to try to compare different appliances to see what is the most efficient way to warm up water.
I: oh interesting so you bought one of those or?
D: (asking wife) did we buy one or did (wife's work)
W: I think I bought it, it was only like $15 bucks
I: oh wow, that's not much.
W: yeah for like comparing heating water in the microwave vs. electric range kind of thing that's all it was.
I: oh wow, did you find anything interesting or unexpected?
D: well, our science wasn't that great .But I think the electric kettle was the most efficient way to make coffee.
W: what we need to do is put it on our refrigerator
I: oh, yeah on the big appliances
D: yeah, and then just upgrade our refrigerator.
W: somebody used it and they had just bought a fancy new TV and they found out their TV was using more energy off, not playing, than on.
I: Oh my gosh.
W: but you can tell just by plugging this in and reading this.
I: wow, what is it doing with all that electricity? I guess that mean you should just unplug it or?
D: Yeah exactly, (wife) will plug things into a power strip like the stereo and then just turn it off at the power strip, because that's easier than reaching behind to unplug it.
I: oh, yeah, then you're not getting all that vampire power. So, um, would you say that home energy use and energy efficiency is an important topic to you?
D: yeah

N1.6 Gary

I: That's great. So we'll start with transportation. I have a feeling your house has a lot of energy-related – interesting energy-related things. You've already alluded to those, but just to get us through the transportation questions. How, in general, do you get around town? What are sort of the sources of transportation that you use mostly?

G: Mostly because of work and so much of my day is work that I get around by mini truck. It's a small four-wheel very efficient, very small truck; it gets about 34 to 36 miles per gallon. That's how I get around town. And I also bicycle when I can but typically not for work, because I have to carry stuff. Yeah. And my company has six trucks. Over time I've been slowly getting rid of the inefficient older ones, upgrading not that to spanky new but upgrading to a little more fuel efficient ones or diesel, because diesel gets a better power ratio, I get better mileage with them. And then I'm going from four-wheel drives to two-wheel drives for better mileage. Trying to stay in town for work, not going out of town too much. I have a very small Kubota tractor that's diesel so it's pretty efficient as well. And then my personal transportation car is a Jetta diesel. It gets about 48 – usually on a decent day – 48 to 50 miles per gallon.

I: Wow, that's really good.

G: For a very–

I: It's like a hybrid.

G: At least as good as a hybrid, and less than half the cost.

I: Yeah. Yes, very nice. And so you mentioned a lot of cars there so maybe we'll talk about your – we could talk more specifically about your personal transportation car and maybe your work truck, your little truck. So I'm wondering what appealed to you about, maybe if we start with the Jetta, what appealed to you about that?

G: Oh, I had it a long time. I don't like buying stuff. I don't like buying rigs particularly. But over time, transportation and buildings are the two things that I do, and whether I like it or not, and they are enormously intertwined. So I don't think I can build fuel efficient buildings without considering how we transport ourselves around, so my own personal choices have been to always be with smaller more fuel efficient vehicles, so I went from a Subaru Forester to a Jetta because Forester only got like 27 miles per gallon, which is – it's a great car but I knew I could do better, and I didn't want to buy a new one for big bucks. So I've gone to a different fuel. I don't particularly think that hybrids are where they should be yet, although it's not a bad choice. I'm concerned about the Lithium battery parts of it. But somebody's got to do it and I'm glad there are people that have $30,000 to start but I don't, so …

I: Yeah, sure. And the work truck, how did you come across that? It's a pretty unusual vehicle.

G: It is unusual. I've always had – I almost always get four or six cylinder trucks, try hot to get eight cylinders, just because driving around in town is just inefficient. It's just inefficient for any vehicle. But I went from older trucks that were getting on the highway usually 22 to 24 miles per gallon to the mini truck because I really only need to haul my dog in the cab, or occasionally one other person, and I needed to heat, cool, and traction and haul stuff, so it is the smallest, realistically viable vehicle I could find, and within a price range – it only cost $5,500. I wish we made them in the United States. My street has three of them.

I: Wow, you must have – people saw yours and then –

G: I did – it was right at the time when gas was around $3.85 a gallon. It was really headed on up there. And I thought it was going to stay there. Whether it did or not, I'm very happy with my choice. Of course I have concerns about no – what do they call those bags –

I: Airbags?

R No airbags and no real bumper. So, no, it's not the safest vehicle but it's probably as safe or approximately as safe as all the old cars that I grew up with. It had no seatbelts and bad roads and people were crazy … they're still crazy; more of them are drunk now –

I: Yeah.

G: -- and you just have to really drive defensively and I'm hoping that will work for me but it's not a safe vehicle. I wouldn't take it to Hamilton. I wouldn't drive it to Helena. But for in town, which is 90 percent of my driving, it's great. So that's why I chose it.

I: Yeah, terrific. And how would you say gas mileage figured in to your decision about buying either of those cars? It sounds like it was a factor.

G: It was a huge factor. Dropped some of my fixed costs from my company, which are not insignificant when you've got a lot of rigs to maintain and change the oil and fix all the parts that fail on older fleet of vehicles but it was also trying to find a sized vehicle that was appropriate, you know, do I need a big four-wheel drive truck to haul me and my dog around in 80 percent of my driving; 10 percent, 20 percent of my driving is hauling stuff. Well, that's a real small part of my driving. So I try to size a

vehicle, personal vehicle that was more analogous to what I was doing in the day. It hauls me and my dog, it gets great mileage, I got excellent traction, and it's the most fuel efficient thing I could find. I don't think anything else exists that's more fuel efficient –

I: Yeah.

G: -- in a pickup truck, small pickup truck. So, yeah.

I: Yeah. And similar for the Jetta was fuel efficiency an important consideration?

G: Absolutely. Yep.

I: And, again, would you say it was primarily the cost consideration in terms of fuel economy for both?

G: What I tried to do is I tried to buy the most fuel efficient vehicle I could for the dollar. Now, you could argue why didn't I get a 1982 Subaru? Those were great. They're great vehicles. But you get to a point of diminishing returns. You don't to go too old because then you just start to patch and repair all the time, and I hang on to rigs far longer than I should, but there's an argument that buying old and patching, repairing is always more cost effective than buying new but I've been there and done that for so many years now that I figured two rigs that were around 10 years old was pretty decent.

I: That's interesting.

G: But there are more fuel efficient vehicles that were built in the '80s.

I: That's interesting.

G: Oh, yeah, they were great. And if you can find one today, great, but you have to fix them, you know, so –

I: Yeah. And so I'm wondering if you were going to buy a new car, what do you think you would get – I mean, not necessarily a brand-new car but if one of these vehicles were to be at the end of its useful life and you had to get another car, what – would you do anything different?

G: No, I'm set. I mean, I really did a lot of research. It took me three or four years to figure out what to do. So – and I donate – I donate the older vehicles to nonprofits when I'm done with them. They can use them – it doesn't cost me.

I: That's great. So in an ideal world, you know, without any constraints, how would you like to get around?

G: Personally? Bike. I would like to – there's a vehicle in Switzerland when I was there that I really liked called a Twik, which is an enclosed three-wheeled human powered with an electric assist vehicle. It's like a recumbent so it's covered so you can out in the wintertime and drive them around. I love those things. But it's just for me and my dog or me and my partner, and it's in town. Long distance I'd love to have a train connection between here and Helena again. I'd love that. Or better train connection Missoula to anywhere. I'd love that.

I: Uh-huh. We have the tracks it seems like.

G: We have the tracks. And I remember the tracks when it was hooked up to Helena. But outside of that, my ideal hybrid vehicle would be probably like a Smart Car but not the Smart Car. Yeah. Smart Car gets great mileage but they're fussy, cumbersome, odd, expensive. A friend of mine has it and – his wife really wanted it but I don't think he would do it again. But we should be able to get 60 to 70 miles per gallon in vehicles. If they're human transportation systems, we should be able to get that. We should be able to have small trucks that are safe that get 50 or 60 miles per gallon. Why can't we have that? So, no, nothing exists out there. I've heard and seen in Europe and in Asia they do make diesel electric hybrid Subarus … they're getting 50 or 60 or more miles per gallon but they don't sell them here. So they're out there, Ali, but I can't get them.

I: Yeah, not here. Yeah.

G: At any price. But when you go to Europe and you go to Asia, you see – these are the mainstream vehicles. Few people have them but the ones that do have – they'll haul 14 people with chickens. Honestly, that's how the world moves. It's just – I just wonder when you go to a foreign country and you get used to this, you come back here, you cannot believe, it shocks you how big we are as humans here and how big our lives are, huge houses, big trucks, big wide roads, I mean, the world does not live like this.

I: That's interesting.

G: We get used to it. But it ain't the world.

I: Yeah. What would you say is the difference, you know –

G: Resources.

I: Yeah.

G: But we borrow money from everybody else to live fat but it's not our money. That doesn't' seem to be dawning on us.

I: Yeah.

G: But, no, when you – this is interesting – anecdotal story – when I first got my truck and gas prices were very high and I'm driving around, everybody is looking at my truck. Everybody is looking at my truck. And I'm just telling you what I'm noticing. But now in the last few months when gas prices have been lower, people have not been looking at my truck as much but have been accelerating in passing me, almost in rage, kind of like – it's really interesting. I'm doing the same driving I've always done but they're passing me kind of like they're pissed off at me.

I: That's interesting.

G: Well, it is interesting to me and I'm thinking, Okay, we're back to a little less expensive gas; you're having your way, continue to have it all – you think you have it all, so there's this kind of contempt. I don't know. It's – it might just be me but I'm trying not to – I'm just driving around. I'm just a guy driving around in my little truck. And at first curiosity like, Whoa, I wonder if I should look up one of those? And now it's kind of like, you know, damn you, we still rule the world. We can beat Al Qaeda. We can get al.l the oil – I don't know, it's just interesting.

I: Interesting. That's really interesting. And the people on your block who ended up getting a similar truck, did you talk – did they come over to you and –

G: We all talked about it, because one guy likes to buy and sell trucks so he's – they're play things for him but he has a consciousness about this. And the other guy, he's a landscaper and he was just very practical and functional, he said, I don't need – I need a great big truck to haul heavy loads, got that, but for scooting around town, he got a little scooter for himself, a little gas scooter and he got a little mini truck, and he does a lot of hauling in that little mini truck. So if you really think about it and you cannot just afford to do it, because it's not very expensive, but think you can get by with less, because it is, it's smaller, it's a little more crowded inside and it's not like it's a fully leather plush, you know, it's functional. They're great.

…

I: Oh, that's actually a very good segway, on a very personal level, I'm interested in kind of your energy use decisions and sort of, you know, what are your concerns about energy use in your home, you know, taking it down to a very personal scale from that, you know, that global scale, what are your kind of issues – how do you handle energy use in your home?

G: When I lived up the Rattlesnake and I was married, we had super insulated passive solar house that was – in 1992, 1993, maybe – Parade magazine, 135 million people saw this eco house up there. It was a conventional-looking house but it was super insulated. It had everything I could get, it was the most efficient at the time, and we lived in that for eight years. And then when my wife and I separated, I moved into a small apartment and I thought this is great, small apartment living, clustered entity, worked great, but I still had my two kids so we were sharing the kid upbringing and I saw this house for sale, and it was kind of bigger than I needed, it was 1600 square feet. That's kind of big, I thought, but I raised two kids here and just until last weekend had three roommates to share the footprint of this house. My energy bills with the three students actually went down, because I watched the thermostat, I put flow restrictors on the shower. We have very efficient appliances. And they were great about using them. So I thought that was kind of cool.

I: Yeah, that is.

G: And they biked a lot or walked, that was their choice. We carpooled when we could. So you kind of – I'm kind of an energy nut, I think, even when the guys that came here to do an energy audit a few weeks ago, as they were coming here, they were looking at my power bills and they're just going, what is this guy doing? What – he must have a bunch of photovoltaic panels on –

I: Like, how are these so low?

G: Yeah, what's going on here? I just keep my thermostat at 60; turn it down to 55 at night. I wear sweaters, and I like coolness. A lot of people don't. But when my partner comes over, I have to turn it up to 64 –

I: Shocking, 64.

G: She'd rather have it at 66 but, you know, my kids love it at that temperature. My roommates were running around barefoot at 60, so it works for them.

I: Yeah.

G: So in terms of the house, when I retrofitted it, I super insulated it, put in new windows, R60 on the ceiling, R26 on the walls, 94 percent efficient furnace underneath your feet. I just did – I still have

water heater that works, it's not the most efficient but it works, and my consumption of gas to heat water here is pretty negligible. So I'm just hanging on to it until it dies. But I do have two photovoltaic panels on the roof that are back feeding into the grid that reduce my electrical consumption in the summer. So – but I don't really want to go overboard with photvoltaics right now, they're expensive and I'd rather cut my consumption than to create more electricity.

I: That's interesting. That's an interesting choice. Can you say a little bit more about where you're coming from on that?

G: Well, you can save money by sale items or you can save money by not buying anything you're just not needing it.

I: Right. Right. Yeah. And do you feel like that's a better, you know – what makes that a better choice, in your opinion?

G: Just consuming less resources.

I: Yeah, using less.

G: Trying to consume less resources. And raising my own food as much as –

I: Delicious, I might add.

G: Oh, thank you

I: Thank you.

G: Canning my own food and there are people all around me that have fruit trees and the fruit rots. So I pick it, I asked them, and I pick their food. I can't believe it. They just let it rot. Okay.

I: It's interesting, it's come up a few times the theme of sort of waste or excess. Do you feel like that's a –

G: It's huge.

I: -- an important issue?

G: Yeah. And, of course, all of us have it in our lives. I mean, I compost, you know, but that's a personal choice. It's soil to me. And I have a long way to go compared to a lot of my friends who really are – live small, frugal, they don't have cars. What the hell did I tell you? I have six or seven vehicles for my company and me. That's a lot. But to do my business retrofitting houses and making energy-efficient houses in Missoula, I have to have transportation to do it. I'm not real proud of that but it gets the materials around.

I: Sure.

G: And then the waste, you know, in my business, 25 percent of the lumbar that typically is delivered to build a new house, 25 percent of that lumbar ends up in the landfill, just waste pieces, knots, twisted bent boards, whatever, they throw that away. I try to take what I can to Home Resources, take what I can to Eco Compost, so I reduce my garbage hauling fees. I try to keep this sequestered carbon, which is a wood resource, in the use stream and not just landfill it or burn it, but that's –n we recycle

cardboard, glass, metal, everything we can so I don't have to haul it to the dump. And every Friday, coming up in a coupe of days, I will go through my neighbors' dumpsters behind my office and empty them out of the stuff that I can recycle. It's just – you wouldn't believe – you should try diving sometime, dumpster diving.

I: Yeah. Well, yeah, I know you're right. I mean, you're absolutely right. I come from a college town where I'm from and it's just ridiculous the things that you can find. Here's a college town too, so I'm sure it's the same.

G: But I've been – I've been to developing countries and third-world countries and when you see what those people live with and how happy they are with nothing and then how unhappy we are, stressed, and we have so much, and most of these dumpsters are air, you have to know they're air, plastic or aluminum cans are air. When you squish them down, there's not much there. Cardboard boxes, paper bags are air. If you were to compress everything down in a dumpster, Ali, it would be like nothing. It would be like the size of a suitcase or less, but it's this big volume because we don't even squish or collapse or compress. If we did that, we wouldn't have to pay for the garbage hauling. But we do because I'm done with this; get it out of the way. God, when is this going to change? I don't know. I'm not trying to make a judgment call but the waste is profligate everywhere you look. Anyway …

I: No, that's very – it's a good point. It's very interesting. So you clearly are doing a lot of things in your house that have to do with energy and also in your vehicles, and something you're thinking about in your professional life all the time, how would you say you got started on this? What kind of sparked your interest or kind of what got you started on this being more efficient and –

G: Well, I was –

I: -- being energy efficient and –

G: I think I would have to say I was raised on a farm by frugal Norwegians. If they had cash, we would sometimes buy things but mostly we were self-sufficient. We had a farm, we had animals, we had a big garden, we canned stuff, and it was better tasting. It wasn't organic, it was our food, we just called it our food. And since we didn't have a lot of money, that frugality was just always there. If you don't need it, don't buy it. We wouldn't buy it anyway. So I – that's always been with me. My dad always told me to drive like a raw egg between my foot and the accelerator. This is when gas was 19 cents a gallon, because he wasn't making much money, if you punched it or really heavy on the lead, your gas mileage would go down. And then when I moved out here, the first thing I saw when I moved out here, I was up in Northwest Montana where the Kootenai River comes into Montana, by Eureka and Libby, and the dam was built and the reservoir was not yet filled so behind Libby Dam was 90-mile long river and the high water mark of the reservoir was all clear cut, so here was this, you know, for a Midwesterner to see the Kootenai River was like the most incredibly beautiful, largest thing I'd ever seen in my life, and here it was completely dis(inaudible) – 90 miles of it was just – there were slash piles burning so there was this smoke, this destruction. I had no idea that human beings could cause so much destruction, really, and I stood on that dam, which was not filled yet, wasn't even operating, and I looked at this watershed that had been completely gutted and this beautiful silver river was flowing at the bottom of it and I thought, what could I possibly do that could help not have this happen again? I really do. It was like an epiphany for me.

I: Interesting.

G: And from that point forward, I just – I decided I would do everything I could just for conservation just to try to find ways of using less so we didn't – and actually reflecting back on that, hydropower is

probably the cleanest, really, it's probably the cleanest, most sustainable, most benign energy production options that we have. But when you see the cow butchered, it's not pretty. We all love the hamburger, though, so that was kind of it for me. Buildings and transportation to me, Ali, are just like this. We don't think of it that way in this country but other countries do. So one of the things I would love to do here but I just – I'm having a hard time rationalizing it is photvoltaic panels on these buildings that would charge a new generation of electric cars that are parked here. But photvoltaics are so expensive. And, again, it's producing more. It's always about producing more. And, of course, for sustainability in Missoula, the photovoltaic panel is the icon of green. When you see the amount of buildings, you go, well that's green.

I: Right.

G: Well, what about reducing the consumption of electricity in these buildings so that you don't even need photovoltaic panels?

I: Yeah. That's a very good point.

G: So they'll be super insulated, they will be passive solar heated as I can get them, and I'm hoping that the people that buy or rent here will be conscious, and that's asking a lot. I know it's asking a lot.

I: But you will have started them off on a good foot.

G: I – and, again, I wish I could say this is as forward thinking as I can get, it's not. It's kind of all I'm allowed to do, which sucks.

I: Yeah. What would you say keeps you going on conserving and being conscious of all these things and taking all of the actions – how you kind of keep going?

G: I love this place. I'd like to believe that there are places just as magic, someplace else on the planet that we don't have to despoil to live there. So I've been through this whole thing with forests, forestry, clear cutting, sustainability of wood, as well as energy, and to me it's all this interlocked thing. We have some real stresses on our forests right now, and when you see when you go to a landfill, you're going to realize that 50 percent of the volume in the landfill is paper and you've barely looked at it, you threw it away, you barely looked at it and you threw it away, what are we doing? I mean, that's just – and then they thought computers were going to reduce our per capita paper consumption and it actually increased it. That's – I don't know. So our per capita paper consumption in the United States is rising -- it was before the recession – it was rising at about 3 percent per year, 2.3, 2.7 percent, not much. China's was going up 7 percent per year, a billion people who need toilet paper. You have no idea the scale of what that means. Oh, my God.

I: Yeah. That's interesting that you say this – you're motivated by this place. Can you say a little more about –

G: I just love Montana and I love the fact that we have remnant natural watersheds, remnant natural ecosystems here and we have wilderness areas. And many of us have worked really hard to hold those in tact for a long time, and they're at risk. But now, oddly enough, we don't even have a wood products industry left anymore to fight. I just think that's – that's really sad. I never meant to destroy them. One of the best guys I've ever met that understand this natural forest ecosystem better than anybody are foresters and loggers. They had no intention of reaming it all out, but prices, no controls, private land, public land, just – and there's silvicultural reasons for harvesting some of the way we did, not justifying all of it. It's a complex issue. All I'm saying is we did get some rocks and ice saved, too bad we couldn't

save some valley floors and some natural lower elevation ecosystems, there's not many of those left intact because they were too good to produce stems.

I: And would you say that kind of keeps you going that –

G: Oh, gosh, yes –

I: -- saving this place?

G: Yeah, and I'm trying not to be a preservationist. I mean, I know we can't preserve everything but I think that with better stewardship, you know, land stewardship and husbandry of things that we could treat the land better than we do, and a potential for Montana right now is restoration-based economy, restore the Butte-Silver Bow complex and the Clark Fork River and restore some of the things that we've destroyed in the past is a huge opportunity for us to fix things, in a big way. And not just throw money at it but find the most cost effective way to restore something and then just kind of put a Band-Aid on it so – I'm making a metaphor – putting a big Band-Aid on it so nature can heal itself because you can't possibly go in there and throw enough money at something if you made a big mistake, but if you can help nature learn to fix itself, 200, 300 years go by, you're kind of back to – so that restoration-based economy is huge. This is a bombed out sight. The boulevard in front of this thing is two blocks long, it was bombed out too. In the last three years, I've hauled in 1,000 cubic yards of top soil, hauled in almost 1,000 native plants and shrubs and planted 30 trees and more are coming each year. So I've created a linear boulevard which I call "the commons," Dakota Greens, and so it's been restored. It wasn't old railroad, it wasn't a dead road, it was just blighted. So it's kind of neat to – it's one of the best feelings I've ever had was to hire this machine that came in and ate the road. It ate the asphalt, spit it out the back as a trail mix, and that was used to cover trails in the city of Missoula to keep them from dusting, and allow them to absorb water. It was a great day. Felt like I could – felt like I took my underwear off or something. It just felt – it was this dead street, it wasn't used and it was impervious surface, and it was full of abandoned cars, weeds, and junk, and it was great to be rid of it.

I: That's interesting that you – it's a very personal connection between – personal actions here and the sort of larger motivation of preservation. Do you feel like that is also true of your actions you take here in your home, you know, talk to me a little if you can about kind of the connection between your personal actions and this motivation of preserving this place?

G: Well, I'm trying to –

I: If there is one.

G: I'm trying to live in the city, you know, kind of a walkable neighborhood, not out in the middle of nowhere where I have to commute every day. And I fixed up an existing house instead of built a new one, using the body – the materials behind you – behind me, those are salvage, from an old barn (inaudible) constructed, so I mean, I tried not to even use new wood for anything in this house just because there's so many great things that are thrown away or underutilized. It took me more time to do it but it was okay. I had some time. If people built their own shelters, they would save the money from hiring experienced trades people and they wouldn't have to work as much because they wouldn't need the money to pay for expensive guys, they could build their own shelter. It's a choice.

N1.7 Indigo[4]

[4] In the nomethetic quote tables, Indigo is abbreviated with "R" for respondent to avoid confusion between using an I to bbreviate Interviewer and and I to abbreviate Indigo.

I: But if it's okay with you, we'll just start with transportation stuff just to get that out of the way. I'm wondering how do you mainly get yourself around town and back and forth between?

R: Back and forth? Well, since we've – since I've moved up to Potomac, I use a car and we carpool as much as we can. Kind of arrange our schedules so there's always 2 people. Try really hard to have at least 2 people coming down the hill, as we call it. When I was in Missoula, it was bus, bike, car when I had to but most of the time bus, bike, and walk, because I only lived over on the slant streets.

I: So when you carpool, you're carpooling with other people from your community?

R: Yeah.

I: And maybe work in town?

R: Work in town, yeah. One fellow teaches at the University and I work here and another person teaches at the MIS, Missoula International School, she's an art teacher, and Rick comes into town because he does, you know, graphic arts and needs things so we have – and another one teaches – so, yeah, there are 7 of us. So we have cars going back and forth.

I: That's great.

R: We try to take the most economical one. We have several choices but in deep winter or when it's really bad weather and really bad snow, we take the 4-wheel drive, which does not get good gas mileage but it holds everybody and it's safe.

I: Right. Right. That's important.

R: That's our choices.

I: Well, I was actually going to ask – my next question is what sort of car do you have?

R: I have a Dodge Caravan and it holds 7 people and gets over 20 miles per gallon. In the summer it's closer to 30. It's an old one but it gets really good gas mileage so that's why we use it a lot. It's the one that gets used the most actually because it holds so many people.

I: And do you share kind of within your community –

R: We pass keys around, yeah.

I: So there's a whole range of – everybody has their own personal vehicle but, you know, depending on what people need to do –

R: Yeah, how big it is, how economical it is, or what specifically has to get done, that's when – we have a suby, Mitsubishi Montero, which is a 4-wheel drive, my Caravan, and then we have a plow truck, which uses horrible gas but we're responsible for – there's 5 – what do you call it? – on Macardi (sp?) Road, there's 4 other big, you know, houses or people and we all share plowing the road, so a plow truck is necessary.

I: Sure. That's interesting.

R: And our lane is steep too so we need a plow truck for that. So we share road maintenance with everybody.

I: And how do you guys handle the car sharing situation, how do you kind of – what are the logistics of making that work?

R: We do – like I pay for my gas, you know, and everybody pays for their own vehicle gas, so it's like – usually that's the way it happens and it could be that we need to get more formalized with that, as we have more people and more things going back and forth. But for right now, we just share. I keep my tank full. Everybody keeps their tank full, except for the plow truck and the community pays for the plow truck's gas because we don't drive it to get gas. We bring gas up to it because it's expensive to run, you don't want to go down to the gas station, which is 6 miles away, so it's 12 miles, you use 3 gallons driving it, so we don't do that.

I: That's interesting. So what appealed to you about the car that you own?

R: It is really comfortable to drive. It gets really good gas mileage. And it's got air conditioning – the whole thing. It's just really comfortable. It's a Dodge Caravan. It's '91, it's old, almost 200,000 miles on it, but it's still the most comfortable car of all of them to drive and it holds a ton of people. We can get 5 people and all luggage, you know, to go to like – we went backpacking one time, 5 adults plus all our backpacking gear for 4 days fit in there. So it holds a lot and it rides really, really well. So that's the reason.

I: Yeah. And did gas mileage play into your decision when you purchased that car?

R: Yeah, definitely, because I had a big van so this was downsizing for me, and at the time I had a daughter in tennis and in soccer so we were doing the soccer mom and tennis mom thing with lots of kids and gas mileage and size was – how big can you get and still get good gas mileage? It doesn't get 40 like one of the other vehicles would get that we have up there. We have a Volkswagen Jetta diesel and it gets 40 miles per gallon. So we drive that a lot in the summer. It's not air-conditioned, though, so. But it's still okay. It's not that long of a drive, half an hour, we can handle it.

I: Yeah. And how about financial considerations, did that play a strong role in –

R: In buying the car?

I: -- in your thoughts in buying –

R: Yeah, it was cheap. It was like $3,000, you know, and I've had it for 10 years, yeah, more than 10 years. So it's the way to go.

I: Yeah, that's great.

R: Used cars are that way; you buy a quality one real cheap and hang onto it.

I: Yeah. That's terrific. If you were going to get a new car when this one has reached the end of its useful life, what do you think you would like?

R: It's really hard because I kept saying that, I bought this car thinking like in 3 or 4 years there will be a car that I'll want. There hasn't – a car hasn't showed up yet. But I want something that's really – it would be nice if it was like part electrical, part gas, you know, what do you call the hybrid thing, but it

has to get good mileage and it has to be a good car, and everything out there to me is just not – just doesn't cut it. Those hybrids don't get that good – like when you're doing highway stuff, their mileage is no better than what I've got, and my car is a lot bigger. So for the size, you know – one day if I can get a car that size and still be able to do all the community stuff with it and still get good gas mileage, we'll do it. Until then, I keep patching this one. So far so good. It's getting old but it's, you know, it's not that expensive to fix.

I: Yeah. That's terrific. And so I'm wondering in sort of an ideal world with no constraints how would you like to get around?

R: Oh, out of body [laughs].

I: Yes, that would be –

R: Just beam me up, beam me down, you know, just dissolve and re –

I: I would like that too.

R: That would be ideal. We're not there yet. Ideally, I would like, even as I am now, I work here but I don't' work full time and half of my hours I do up there. I remote into this computer. So that's kind of a good way of getting around is not having to drive because I don't like – I just don't like driving every day. I mean I don't mind taking a trip or something. But, ideally, it would be nice if there was bus transportation from up there or some sort of public transportation. It would be great. It seems like there's a lot of cars going back and forth and there's a lot of carpooling at the end of our road too. So, you know, we do that but it would be nice to have public transportation. And that's one of the projects we may do as a community is get a really, like a diesel thing, run it – we have a biofuels refining thing up there so we can take grease and turn it into something and put it in an engine so we're doing that and it would be nice to get a diesel, small diesel bus-type thing, or van and do public transportation. It would be – it's a community project. We're thinking down the road when we have enough people and enough – the financial thing to be able to buy a $20,000 vehicle, or 30,000, we're looking at mercedes van or a sprinter or something or something, really, really good. Be able to use for back and forth a tank full, you know, keep the fuel and do the refining up there and still not have to use gas stations and run on refried.

I: Yeah, right, right. Tell me a little bit about your biodiesel facility. How that got started.

R: It got started because a member came up and joined and he ran a business in Seattle like that, or owned a business like that in Seattle, so he had the truck and he had the equipment and he had the tanks and so we just built a little cottage that all that stuff goes into and it's just a matter of warming it and refining it basically but just filtering out the garbage and getting it to the point where it doesn't get solid when it gets cold. It has to be refined and not to have saturated fats in there. So it's a pretty simple little set up. It's there.

I: And it's run by your community that you live in?

R: Well, it was. Matt, unfortunately, moved into town so he's not – and he wrecked his truck, slid off of some road somewhere, driving too fast, and he totaled the truck. Nobody got hurt or anything but the truck was totaled so all that conversion stuff that was on the back of his truck was wrecked. I mean, the conversion stuff was taken off the truck but we haven't converted another vehicle to have that –

I: To run on the biodiesel, is that –

R: Because our plow truck is a regular engine. We have another pickup that we use for logging stuff but it's not a diesel either. So we only have one diesel car right now so we need to get another diesel. If I got another car and having it diesel would be perfect because of that conversion because you have to – you carry the thing on the back so that you're out on the road somewhere far away, you can flip the switch and use gas – diesel, or you can flip it and use veggie oil.

I: Oh, okay. Interesting. And I'm wondering if you made any other decisions that relate to transportation that we haven't covered? It could be like where you live or it could be traveling, you know, traveling on vacations or if there's anything you think of that has to do with transportation –

R: That's the main thing. Because when you have to fly, you fly. But I don't' fly unless I have to. Because flying, I know, I've done the footprint thing, and flying is one of the worst. Uses a lot of fuel and leave a lot of junk in the sky. It's really sad.

I: That's a good point.

R: Yeah, but, hey. Like my granddaughter in Boulder, Colorado, and that's a thousand miles a way, I'm not going to drive it, I mean, this time of year. In the summer I would but not this time of year.

I: But it's definitely a long way.

R: Yeah, it's a long drive.

I: Okay. Terrific. So, your house sounds very interesting, where you live sounds very interesting. Do you live in – is it a house or an apartment?

R: Yeah, we have a big – we bought the land, it had a big house, 3,000 square feet – not big like humongous – 3,000 square feet or 2,800 or something like that, but it has things like heat pump for heating system, and – he was an engineer who put it in, so he had a lot of energy efficient sort of things in it, and of course we sealed all the windows properly, we had to take a few, like, just a few months ago one window was leaking, we didn't know it. The window looked okay, there was a lot of air, we took the window and had forgot to seal around so we took the window out and sealed around it and put it back in. And then we put a greenhouse on the front and the front faces the woods, south facing so we can raise vegetables. And just this weekend put in a rocket stove to heat the greenhouse so the –

I: Is that a woodstove?

R: It's a woodstove but it's run so that you have like a tube that you feed, you feed twigs in it, because we've done a lot of forestry work, a lot of forestry work, so we had a lot of slash and so we can use stuff this big around (indicating) and feed it in there and it has a burn chamber and then it gets super, super hot and the heat drives the – pulls the air down through the feed tube and then there's a barrel and it circulates around the barrel so the barrel is hot and the barrel has got two layers of barrel, and then the air from the outside – from the outside of the 2 layers goes down under the beds in the greenhouse and comes back up, it's basically the exhaust, and by the time it comes up, there's nothing but water and carbon dioxide in it, which plants love. But we have to exhaust to the outside because of code, but that heat goes into the beds, into the dirt and into all the cement and stuff in that cement. We have cob that we put in, because we have clay, we have all that kind of stuff at the house, clay and wood, almost everything was made from either recycled or stuff from the land to make the rocket stove – oh, the greenhouse too, home resource, it was almost all – we spent something like $150 and we got a 20 – maybe 12 x 30 greenhouse, you know, just because it was just very little but new stuff went into it. It had sliding glass doors and that's the whole front sliding glass, it's like it's cool. So the rocket stove will – heats thermal mass so

then once it's off, the thermal mass can put off the heat. So we just put it in this weekend so we haven't run enough to get it heated up in there but it will happen. Hoping next weekend I'll have time to clean things up and crank it up and then do some starts and get our winter greenhouse going again.

I: Wow, great.

R: And then the other thing with the house we have – yeah, that's the basic house. So we're living in the house, and like I only have a bedroom, you know, you each have your own bedroom –

I: So there's people that aren't necessarily like your immediate family?

R: Yeah, just me. My kids – Jen is coming home tomorrow night so – there's an extra bedroom she's going to be in that bedroom for a while until she gets a job and gets jet lagged over and she'll probably spend a good week there just to get back here. But with people going back and forth from town, it's not a problem. So we stay in the big house and that's, you know, share a washer and dryer and try to make everything as efficient as we can get. Everything as efficient as possible, and we haven't put in solar yet but we are intending to do some sort of solar.

I: And you said you have a heat pump, is that like a groundwater heat pump or –

R: No, it's not. It's air to air so it pulls air into the heat pump and it does air conditioning and heating and it's really, really efficient. Evidently if the temperature is in the 30s and 40s, it's super efficient pulling heat out of the air and then when the temperature gets really cold, we put woodstoves in, so we have woodstoves that heat the house for the most part and turns the circulation system on in the furnace so it just circulates the heat from the stoves, and we have tons of wood because of all the forestry work we've done because of fire mitigation and beetle management. There's a lot of wood. And enough wood for us to build our own homes when we get to the point we're building our own homes.

I: Wow.

R: Just tons of wood. More than tons.

I: And so is the community, everyone lives in that house or are there some people who have their own houses or how does your community work?

R: Everybody – right now we're all centered in the house, though Rick and Feather – we also have an outbuilding that's insulated and heated and all that sort of thing, woodstove heated, and their bedrooms are in that, because they want the privacy, you know, it gets pretty crowded, but we all – the kitchen and all the plumbing, we don't do any of that kind of stuff in the outer ones, and probably will be building yurts for temporary housing so people have, again, detached bedrooms, basically, but still use the main house for everything. And eventually, hopefully by the end of next summer, we'll start building our own homes but they will be connected to the big house and they'll be super, super efficient and really won't need a heating system because of the efficiency. We'll do some annualized heat storage, you know, for heat and cooling. We have also footprint standards, you know, how small we have to be, we cannot build big homes.

I: In your community?

R: Yeah, everybody – yeah, we have – land use plan and that sort of thing to keep things efficient.

I: Wow. Great.

R: So build in a circle attached to the big house and inside the circle will be the gardens and it will be like a wildlife free zone, so the coyotes and the wolves and the mountain lions, which we all have bears, deer, all those things won't be coming inside this circle. Our hoop house and gardens and everything will be safe, chickens.

I: Did you start the community?

R: I'm one of the founding members, yeah.

I: Great.

R: Five or six years ago we started meeting and slowly but surely we got to the point where I said, okay, it's ready to go, let's look for land, set up land criteria in terms of distance and bigness and all that kind of stuff and cost and we finally found this piece of land that met al.l the criteria plus had a house on it, which we never expected to be able to just move in. Usually you buy land and then you go through the whole building process, and this was done.

I: That's great. And how did you get started on that idea? I mean, what was sort of the – it seems like you have some sort of a theme or founding principles or something like that.

R: Well, eco villages are permaculture, and eco villages – it's a global thing. South America has tons of them. So that's kind of like the founding thing. If you look on global eco village network, GEN, you can see all the eco villages and all the – mission and vision statements. We have all that. Operating agreements and – you got documents up the ying yang and we formed an LLC to hold it all financially so it's pretty structured, which is good. And I guess I've always been interested in community – I spent a summer in ashram one time, and I thought this is the way to live, you know. It was a long, long time ago. And then went and got involved with the cohousing group and that fell apart because people wanted their house right now and weren't ready to spend time as a group to develop everything. Then ran into this group, and [names a person] just said, Oh, there's a meeting tonight, and I go, I'm going, you know. That must be 6 years ago. I could look on the calendar. I don't remember. It's been a long time.

I: Yeah, that's great.

R: It's been a long time. And then the group as a group, you know, people joined and left and joined and left and joined and left until there was just a solid group of 7. We just kept going and developed all our missions and visions and did all that kind of stuff for the eco village and the financial structure and land thing and we had that all done before we found the land. We looked at a lot of land, a lot of property, and when this one popped up, it was like we were ready, and it was ready. We just like walked in, do it.

I: That's great. And it's called an eco village. Does it sort of have an environmental focus or how would you describe kind of in a nutshell what it –

R: Well, it's based on permaculture, and permaculture is social and environmental. It's the whole thing. It's a decision-making by consensus and it's living in a very efficient way so that, like they have zones, so like your house is zone 1 or zone 0, it's like that's the center, and then you put things, like concentric circles basically around your zone 0, zone 1 – zone 1 is just basically outside the house – so that everything is efficient. You try to do it as efficient, and they call it stacking function so like the chicken provides eggs but then it also provides poop, and then we take our compost and feed it to the chicken. All those things. Everything is in cycles, nature knows no waste. It's based on that, basically.

You use and reuse and reuse and reuse, and we don't throw things away, as much as possible. And we do have garbage cans and we do use – it takes us a long time to fill garbage cans, which is good. We don't dump on the land, except for compost or like slash, you know, natural materials. And then we're building, you know, what they call swales so – we bought a chipper so we can chip slash and make swales which makes little berms so as water falls – we live on plateau, or table so when the water falls down from the house, it gets caught in these places so it stays wet year round and then we can grow deciduous things, fruit trees and all kinds of things like that. So we can sort of like make a micro environment that's wetter than the average up here, you know how it is, dry during the summer. And then using pray water systems and snow catchment systems and all that stuff. That's part of the whole picture, use what comes on the land, with the land, and reuse it until it's – it gets disbursed, turns into fruit and vegetables, animals, and all that kind of stuff.

I: And so you have chickens now. Do you have other – it sounds like you have a good-sized garden and greenhouse.

R: Yeah. The gardens are what we've lived with gardens until like we get our big ones built and we probably will next summer, there's a drain field that we're probably going to put our garden on, put our hoop houses at least on the drain field because that's where the moisture is.

I: Is that like from the septic system?

R: From the septic system but it's a French drain and it goes – it's like huge, it's like 50 feet long and – or 100 feet long and 50 feet wide. It's a really huge system. Because we've got a clay lens so drainage is not that good, which is good in a lot of other ways, but that means the water sits and you can see where the grass grows really tall. So those are going to be our garden, those strips, and they're far away from the house. It's all the – it's been draining for a long time before it gets out to the drain field. I don't know how many feet, 100 feet or something, so like most of the stuff, it's been worked through, the bacteria has been converted and all that kind of stuff. We don't put any garbage in our drain system. We don't flush stuff. We're also doing dry toilets. Getting composting toilets. So you asked about – so what we're doing with gardens, we have a lawn that has a sprinkler system so we're doing raised beds that are really raised high so we can – because the soil is thin and it also has that clay in the bottom so we need to have enough drainage within the bed so we've arranged the raised beds, several of them – I don't know how many we have now – 6, maybe 8 – so that the light gets to them and so the sprinkler system can sprinkle them so we don't have to water. And it's not lawn anymore, it's growing things. We've got tons of potatoes, lettuce and all kinds of stuff last year. It was good. It was sort of satisfying to go outside and pick huge bunches of kale and make a huge meal.

I: Now, do you guys eat together generally?

R: Yeah, we have a communal eating thing and that's another way that we save money is to buy – like I went – I did farmer's market so we bought from farmer's market, tried to stay as local and as organic as possible. Our sort of thing we say is we buy food that is the kindest on the earth for whatever it is. Like you're not going to buy local coffee. So you make a decision, it's got to be a fair trade so we're not exploiting people and it 's got to be organic or shade grown so that, you know, the environment isn't affected. We do all that stuff. Our sins we pay a lot of attention to that stuff.

I: That's great. That's very interesting.

R: And then we buy in bulk and cook communal meals. We each have our own sort of dietary little things going and we try to cook in such a way, we rotate cooking and cleaning and all that in-house, you know, so that nobody is burdened with it all. It works out. We have what's called mingas, which means

we get together and go, Hey, Friday morning, we're all going to be cleaning, we have a chore wheel. It's fairly formal but I think it really helps communication. There's no, like, Oh, somebody made a mess, blah, blah, you know, that kind of stuff. Well, once a week it's going to get cleaned. Somebody is going to clean it. So it doesn't build up and that sort of thing.

I: That's great.

R: This weekend I just by chance I said, I hadn't looked at the stove in a long time, and so I put my hand in the ashes in the bottom of the woodstove, and I got this deep – I think it's time to clean it. I cleaned it. I felt like it and that's what I did. I spent a couple of hours cleaning the two woodstoves. And they run so much better now. Oh my gosh, huge difference in heat efficiency and stuff. Those woodstoves are super efficient stoves mine is a Vermont castings, it has the secondary burner and the other one is a Matrix – I keep forgetting the name of it – but anyway does the same thing, does secondary burning so that the smoke that comes up gets burned again before it goes out.

I: So we've kind of touched on this a little bit, I'm interested in sort of what appealed to you about the house where you live or kind of what appealed to you about this kind of community that you live in?

R: It's just in my blood I guess. I don't know. My father did organic gardening. I grew up with in the '40s and '50s, so that's just, you know, it's just part of what you expect and I grew up in a large family so living with a ton of people is what I grew up with. I'm also pretty much a loner and an introvert so this appealed to me when we went there and just – it was so much forest, just so beautiful. It was cleared around the house, the 50 feet or whatever it was, and the forest was cleared and it has a nice light understory so it's really diverse compared to most forests and it's been taken care of and there's a meadow and all that kind of stuff, so it's just the feeling of it, just feels really good up there. That's the main thing, the land, it feels good. And then there's quartz ridge sitting up there so that we have humongous quartz rocks hanging around up there and it's really nice feeling. You want to cool out you go to quartz rocks and sit. Or if you need to go out to exercise, you just take off. There's – you can go any direction, 75,000 acres of public land at our fence line. Because there's Lubrecht and Garnet and there's BLM and then the nature conservancy stuff that they've done, we're connected to all of that stuff. So, yeah, that's why, it's the land. Nice house was really, really – that's a bonus. Didn't have to be so nice but it is a very nice house. Australian Cyprus floors and all this stuff. It's like – right. Didn't need it but it's fine. It's really nice.

I: That's great. I'm wondering how did you get started, you mentioned your family but how did you get started in kind of this lifestyle of being energy efficient and, you know, you mentioned the gas mileage and your car was important to you, obviously your whole house has a lot of focus on efficiency, I'm interest in how you got started in that whole –

R: Where did that start?

I: -- way of living?

R: I don't know, because – I think it's in my blood to do the efficiency thing because I know I've managed stores and stuff like that and organizations, and that's one of the things I do is get operations down so it's efficient so wasting energy of any kind doesn't appeal to me. So maybe it's just the way I am, I guess. I don't know how to say that but it's just like – I'm attracted to those things, you know, belong to AERO and was on their board for a long time and did all that sort of thing and still involved with them. That's just what you need to do in our lives is to get efficient, use less, dump less, and be happier. It doesn't take money.

I: That's very interesting. Can you say a little more about that kind of philosophy? That's very interesting.

R: I think it has to do with energy consumption, not just fuel, but our personal energy consumption, and it starts from there and then knowing that we're a microcosm of the earth energy, you know what I mean, all those things come in all the systems and universe energy and all those sort of things. But it just – I don't know, it just makes sense to be as efficient as possible. Why go up and down stairs twice when you can carry twice the load – it just makes sense I think. And then for me more and more understanding that energy is physical but it's also – there's other sources of energy that's not physical, like physically – if I mediate and do all that kind of stuff a lot, then I use less energy because my body gets more efficient. And so it just keeps going. And then there's so much energy in the air that we breathe and just understanding all of that and working on it from that angle just makes sense to me. I don't' know if it makes sense to anybody else. And living with other people, you do a lot of things with structure and stuff so that the communication doesn't block energy, you know, if there's a problem, we have a heart council or something like that, and that keeps energy flowing between people because a lot of – to me energy blocking between people is what causes a lot of friction. I'm not going to say that because you might, dah, dah, dah, so you have to get to the point where you're open and trusting that I can say that in the nicest way as possible and have a dialogue about it and have personal growth issues kind of resolved. You know how it is when you live with people, all that projection, all the stuff we grew up with, you know, people get married and they have all these problems, how about a whole 7 of us. There's a lot of issues –

I: It's like a huge marriage.

R: Especially living so close together, you know, the privacy stuff and all that, especially for couples, I'm not a couple anymore so it's like – but I've been a couple and I understand a lot of the intensity and it's like, they need private time. I'm out of here. This weekend, Sunday, Vegas (??) really needed some time along and little Lunas (??), like 3, 3 ½, and I said Luna, let's go out side and play, and we went out in the snow and played 2 hours, and gave them a chance to work through whatever it was, had to do with Luna. It's hard for parents to raise a kid with 2 headstrong parents and a very headstrong kid.

I: It is hard. And what would you say kind of keeps you going in this kind of lifestyle of energy efficiency, and it's bigger than just the traditional energy efficiency but kind of what keeps you going?

R: I don't know. Something feeds me somewhere. I think it's true for everybody. If you find where you belong, you get fed by that. And it's hard work but it somehow even the work feeds you. There's an energy flow, and if you don't block it along the way, it just keeps happening. I don't know. That's the best I can guess. I know that land feeds me when I go home, I just feel, Aww, I feel like air here and just – Missoula is very intense but it's an extroverted world and I need the introverted world just to keep my energy from being blocked. Too much of this and I need to go home.

N1.8 Andrea

I: So if it's okay with you, we could start with transportation issues and then do home energy use. So I'm wondering how you get yourself and your family around town. What are the different ways you use?

A: I would say it's dependent upon location, but – and weather. So primarily in fair weather, so spring, summer, fall, it's – our primary mode is biking. So biking with trailers for the kids or even our 4-year-old is very well versed at biking himself and can bike to town and back.

I: Nice. Wow. That's great.

A: Yeah, so he's been on a two-wheel bike for a while and that's how we go to a majority of places now. The restriction on that is like to the grocery store, we drive. Commuting back and forth to work sometimes is on the bus. But I would say we're a one-car family so we primarily do other options. Family has no problem getting on the bus and going to the mall together, or other locations. But I think if we go – and it also depends on how many of us are going. We don't have – sometimes we go as a family – and how late we're staying out. I mean, there are so many factors in making those decisions but it always is a conscious decision as to how we're going to get there, and I think that's important. I would say our first choice during fair weather and such is biking followed by busing and then our last option is the car.

I: Yeah, sometimes you've got to.

A: Yeah, and how late we're staying out and if the kids are sleeping or – a family definitely makes – influences that decision.

I: Yeah.

A: Versus like, Oh, I'm just running here and there and everywhere and I can do that on my bike, more easily than bringing everyone along.

I: Yeah, that's a very good point. And can you tell me about your car, what kind of car you have?

A: Yep. We have a 2010 Subaru Outback wagon, you know (laughs) kind of like most Missoula families have that Subaru, and that's it.

I: And what appealed to you about that car?

A: The space, the capacity. It has a higher miles per gallon than a lot of the cars that are in the same category. It's 25-30 miles per gallon. We bought that new – of course it's a 2010 – from having a Volkswagen Jetta TDI, which is the diesel version, and that got us 45-50 miles per gallon, so it was a decrease but, again, there was pros and cons to both, diesel emission versus gasoline emission, and the capacity of the wagons themselves, clearance and other factors.

I: That's interesting. That's a good point. So it was kind of a combination of features and –

A: Benefits. The space benefit for having two car seats and children and gear and things, we definitely needed more of the wagon style vehicle, didn't want the high profile of the minivan or an SUV, so looking at the Subaru as kind of the hybrid between a car and an SUV, the clearance so you can go more places, especially in Montana, to get to your hiking destinations and around. And then just this version of the Subaru does have good miles per gallon, so that definitely was a factor. It still hits us sometimes when we're like, Oh, really, we're only getting 30. It was a factor in the decision, you know, selecting this over like a Ford Flex or something else. Just had the right combination of things.

I: That's interesting. So I was going to ask did gas mileage play a role in your decision.

A: Totally, yes. It definitely did.

I: Yeah. And did financial considerations impact your decision at all or …

A: I wouldn't say as much as other things. I mean, it was more about the fuel economy, the space, the comfort, those things other than cost. I mean, I can't say we didn't look at used versus new, you know, yes, it has a weight but I wouldn't say it over shadowed any of the other decisions.

I: Great. And I'm wondering – it sounds like you recently purchased this car, but if you were going to buy a new car, what would be your sort of dream car that you would want to get next?

A: I don't think anything on the market right now. I mean, I'm really happy with this. Yeah – so… Yeah, I'm going to leave it at that.

I: Same thing, maybe?

A: Yeah.

I: Same vehicle.

A: Maybe the newer version, the '11, but I haven't seen or heard about it and what's different.

I: Yeah. And what about in an ideal world where you didn't have any constraints, how would you like to get around?

A: Teliportation [laughs]

I: That's funny. A lot of people have said that, and I'm thinking, God, that question is worded so funny, that's exactly the right answer.

A: I just want to beam from one place to another. I guess I really do – I really enjoy biking. So if I didn't have to contend with ice and snow or the poor street and weather conditions, biking would be most ideal. You can – especially here in Missoula being flat, you can get to the majority of places that way, and in an ideal world, we wouldn't have to contend with car traffic on Reserve. Yeah, I think that's – that or flying, like personally flying [laughs] –

I: Hover crafting –

A: In that personal, like, if I had wings, not jet airlines.

I: Yeah. That's – I did ask in an ideal world so that's right.

A: Yeah, if I could sprout wings and fly, that would be fun.

I: Have you made any other big decisions that relate to transportation, like where you live or travel, like vacation travel or work travel, or anything else that you think is relevant or important that relates to transportation?

A: When we moved here 3 ½, 4 years ago, we did look at where our house would be located in relation to the job because we were coming here for the job so the job was fixed and then we had the flexibility to move in proximity to work. And I'm about 2, 2 ½ miles from work, which is a good bikable distance, because work is downtown, bikable, walkable in a sense to get to downtown and other amenities so, yeah, choosing a house on a bus line in that kind of proximity to my work life and other options. I would say we also selected my son's preschool based on its proximity to home so that we wouldn't have to drive across town to get him to school. So we bike and walk him to school every day [sounds proud of

this]. It's good for him as well as us that we don't get in the car and trudge across town. I think those two things – transportation was very much part of that decision and influenced that. And then I guess otherwise – I can't think of anything else.

I: That's great. That's terrific. So switching to home energy, do you live in a house or an apartment?

A: We do. We have a house, we own our house.

I: And what appealed to you about your house? How did you choose that house?

A: It's a new house so it's under 5 years old, or it's about 5 years old now. Again, it was on the bus line so being a new house it's more energy efficient. I mean, we came from a hundred year old house so looking at the pros and cons of that. Again, location and the neighborhood. We have a very family-oriented neighborhood so that was a big decision.

I: Nice. And can you tell me a little bit about energy in your house, kind of how you make – how you use energy in your house and how you make decisions about using energy.

A: We're very conservative on energy [laughs], maybe to a fault. It's funny because we just had an energy audit done, and we were told that of the audits they've done for, I don't know, 50 or so households, we're the lowest consumers and that we use a third of the energy that other households do of similar size and occupancy. So, again, we're a family of 4 in a moderate-sized house and we have the habit of turning off lights and not leaving things plugged in and making sure that when we go on vacation our hot water heater is turned down, and that we have a programmable thermostat and so we utilize that function. And even though my husband and kids are home during the day, that we try to utilize solar – like the passive solar – solar light heat coming in through the windows or – we don't have an air conditioner so we just leave windows open or – so in the summertime open up the windows in the morning, cool everything off, shut them before it gets to the heat of the day, and using window blinds and things like that. So definitely a very conservative approach to things.

I: That's great. And I'm wondering kind of how you got started with that approach to, both – you really have a very efficient, energy efficient approach to both transportation and home energy, I'm wondering kind of how you got started on that.

A: I guess for me personally it has to do with my interest in the environment. I'm protecting the environment with – I have my degree in biology and environmental science and knowing the impacts of energy consumption in addition to cost savings. I would rather spend my money on a nice dinner out or even at home than I would pay the electric company. So having a dinner by candlelight is nice [laughs]. I don't know – and I think it is the balance of that. We don't have a lot of control over how much our energy costs but we do have control over how much we spend on it. Does that make sense?

I: Yeah. Absolutely.

A: So I'm making those conscious choices.

I: Did you grow up in a similar kind of a framework or similar household?

A: Yeah, I would say but my parents were fairly conservative. I mean, dad went around and saying, Hey, shut off the lights. And I don't know where that stemmed from other than, you know, maybe a similar thought of cost savings for him but it translated into much more for me.

I: And what would you say motivates you to keep going on doing all of those things?

A: I think it's just the right thing. I mean, if I don't need a light, why have it on. Kind of practicality of it. If it's our practice to do this, we're not having anymore savings but we're not – so we're not realizing anymore savings. So if we made a major behavioral shift, we would – you would initially realize a lot of savings but over the long run, it's just how you operate. So I would say it's habit, one, and just, again, the practicality of it and seeing energy consumption in other places skyrocket, an increased awareness or a continually growth of awareness of the impacts out there.

I: Yeah, that's interesting. Can you say a little bit more about that of what you're thinking of?

A: Well, when – I guess growing up we started out with small recycling programs and they've grown over time, and the need for them has grown and the, I don't know, information around it. So being more part of the informational wave where we're more aware of the impacts of our garbage, more aware of our impacts of our energy usage and how it is involved or connected throughout the world versus just our little town or our little state or our nation even, so I think just being aware of a broader scale.

I: Yeah, that's great. How would you say you kind of came – you came to that awareness?

A: I think a lot of it's through media, good, bad, or indifferent, and publicity of things or publications, whether it's newspaper or Newsweek or environmental groups bringing it to your awareness. In the grand scheme of media, it's all there, and filtering through it on your own.

I: And would you say it's a topic that you seek out or a topic that you're kind of interested in and seek out or do you feel like it's, you know, just so broadly – it's just so in your face, or how do you kind of –

A: Probably because of the work I do, I – it's more readily available to me or it's more part of what I do being involved in sustainable transportation, that piece of it, but then the broader sense of household energy and food energy and things like that, I think I do seek or gravitate towards that and finding out what greener options can we do.

I: Yeah.

A: But a personal interest in it as well. I think like going back to what started me on it was the personal interest in saving the world, saving the environment, and that kind of protection so …

I: And how did you end up choosing to kind of follow that as a career path and educational –

A: Who knows[laughs]? I think it's just where the chips fall. Never did I say out of college this is where I'm going to end up. I think it's just as opportunities arose and certain directions and focuses.

N1.9 Maya

I: So I'm wondering how in general do you get yourself around town, you or your family or your dogs –

M: I usually bike from March to mid-October and then in between I take the bus for my work commute. For my other trips, I usually walk if I'm going downtown. If I'm going to the North Reserve area, I drive. If I'm going usually to the grocery, I drive, sometimes I bike to the Good Food Store because I'm kind of central.

I: Okay. Terrific. And you mentioned you have dogs. Do you drive them around to hikes and stuff like that or walk them in town more.

M: No. Pretty much walk in town. We're pretty close to the river.

I: That's nice. I'm wondering what kind of car you have; sound like you have a car.

M: I have a Toyota Scion XB.

I: Okay. I know exactly what that is. They're very cute.

M: A funny little box car.

I: Yeah. Very cute. And what appealed to you about that car?

M: It has a lot of head room and there's room for the dogs in the back still and it's short enough to fit in my garage.

I: Nice. That's important. Did gas mileage play a role at all in your decision on that car?

M: Yeah, it has okay – that's the one thing – it didn't have as good a gas mileage as I would have liked but to get better gas mileage I would have had to go quite a bit smaller.

I: Yep. And how about financial considerations, did they play a role at all?

M: Oh, in the car I picked? Yes, absolutely. Yeah.

I: Okay. Terrific. If you were going to buy a new car or if you were going to do it all over again, I don't know how recently you purchased this car, what do you think you would get?

M: Well, I just bought this a couple a years ago, so I don't plan on buying another car, but I would – it would be fun to be able to get a hybrid but I would want something very close to what I have, and that doesn't come that way yet.

I: So kind of talk me through, if you're willing, the features of the car you have now that you would want to replicate, kind of the most important things. If you had to kind of make your own car –

M: I'd want enough room in the car – I have friends with – I have a friend with a really, like a mini, and it gets great mileage but it is really claustrophobic. I'd want a little room.

I: Yeah. Sure.

M: But I don't want anything very big because it's a pain.

I: Yeah. Sure. That makes sense.

M: It's a nice middle kind of car.

I: So in an ideal world – this is kind of a similar question – in an ideal world, with no constraints, how would you like to get around?

M: In an ideal world, I would like to have really good transit so you could just run out and grab a bus or walk to the trolley or something to that effect. And that it came frequent enough that you only needed your car to leave town. That would be really nice.

I: Yeah. Terrific.

M: And I'd love to have a train to leave town.

I: Yeah, I live right by the tracks so I'm always thinking like couldn't we make better use of those.

M: You must live in my neighborhood.

I: I live on Defoe on the north side.

M: I live in the old west side so I'm just on the other side of the tracks from you, on Phillips.

I: Okay. Nice. They're very loud. That's a very loud area.

M: I don't even hear it anymore. I've lived in that neighborhood so long; I do not even hear the trains at all.

I: It's amazing how you get used to it. I don't even notice it.

M: Except Saturday night, for some reason, on Saturday night, they do a lot of changing. Have you noticed that?

I: I'll pay attention now.

M: You will start to notice that it's – (brief interruption)

I: Yeah, it's amazing how you get used to those things.

M: Yeah.

I: I thought I'd never sleep but it's fine.

M: Yeah. You just don't even hear it anymore.

I: Yeah. It's true. I'm wondering if you've made any other big decisions that relate to transportation, where you live or –

M: Yes.

I: -- things about travel or anything that you think is relevant to transportation?

M: Yeah. I live where I live because I can walk to recreation, to shopping, to work, or bike – I can walk or bike easily. So definitely I have made – that's why we live there.

I: Okay. Great.

M: I want to hear the results of that answer.

I: To what other people say?

M: Yeah.

I: I have had a fair number of people who say similar; I chose where I live to be able to –

M: Because it's walkable, bikeable? Well, I get al.l sorts of percentages that say, you know, if you've gone to the walk score site, where you can get a walk ability score for where you live –

I: Yes. I know what you mean. I've never been to their site but I know --

M: Yeah, and it talks about the value of your home is more if it's more walkable community and blah, blah, blah.

I: We should do pretty well in town, anyway, on that but I don't know.

M: We – yeah, our neighborhood should, it's okay, it's not as good as I thought it would be but I think maybe they're envisioning walk ability for all ages and abilities, and maybe for some abilities – and maybe they think half-hour bus service isn't very good but here it's pretty good.

I: Yeah, just depends what your criteria area.

M: Yeah. Yeah. If you lived in the city, you wouldn't think that was very good.

I: Right. Right. That's interesting. So I'm interested in the energy use in your home. Do you live in a house or an apartment or –

M: I live in a house.

I: And do you own it or you're a renter?

M: I own it.

I: Okay. Great. And what appealed to you about that house?

M: It was actually built by [names builder] whose an environmentally friendly builder and it is very energy efficient, and that is what I wanted about it.

I: Terrific. Did you buy it –

M: And it was small and affordable. Yeah, I did buy it about five years ago.

I: Okay. Terrific.

M: I didn't buy it. I traded two houses for one.

I: Oh, interesting.

M: Yeah.

I: To [builder] or –

M: Yeah, to [builder]. Then he retrofitted the other two houses and sold them.

I: Oh, interesting. So tell me a little bit about your house in terms of the energy use and kind of how you use energy in your house and the features of the house that are – relate to energy.

M: It's just really efficient. The hot water is amazingly efficient, and I don't know why, to be quite honest, because it doesn't look like any more efficient hot water thing than anywhere else but it really is efficient. So we've never run out of hot water. It's just a little hot water heater but I don't know what it is, but I should ask Steve sometime what it is. And it had three bedrooms and two baths and a small, very small, it was on a split lot, so there's not very much yard, and that was important, and my heating bills were about – heat, light, everything about $70 a month so that's pretty good, all year long, because I do the budget billing thing so that's pretty good. So comparatively to other houses I've had that where the wind blows through them, it's really tight and really efficient. And it's also aligned so you get as much sun as you can possibly get, so, you know, it's really efficient. He did a really nice job.

I: Yeah, that's great.

M: And small, which is also something that I wanted.

I: Yeah, that's interesting. So talk to me about the small side of things. How does that come out as important for you?

M: Well, it's always been important to me. I really think that we – one of my theories when I was doing economics was that I believe people should only be allowed X number of square feet to live in. They can have it gold plated if they wanted, but we shouldn't be allowed to just build endlessly with our, you know, to appease a large couch or something. I don't know why people want these big huge high ceiling, open spaced living spaces. I think it's really inefficient and kind of unfair to the rest of the world to think we get that much space to curl up in. And if you ever look at people in a large house – my sister has a really large house, and what's really funny about her house is they have one small room that they basically live in and they have this monster house, and I realized people want to be cozy and they want to be close together but they think they need all this room, which they don't use. So that's my little deal. I think people should live in less space.

I: That's very interesting. That makes a lot of sense. So how would you say your thoughts about energy use or efficiency or whatever it might be influence your decisions about heating and cooling and electricity use and that kind of thing in your house? Are those kind of top of mind things, bottom of mind things?

M: Oh, no, no. I would say – I have to say as I've gotten older, lighting is really an issue for me to be able to see so I have more lights on just because my vision is worse as I get older so I think that's something I didn't realize before that – and a lot of my friends really need a lot of light on to be able to see, which I think is an aging thing. So I probably use more light than I used to use but I've always been conscious of my energy use. And I think people in the – of my age, parents grew up in the recession – more than a recession – what was it?

I: In the depression?

M: In the depression. Excuse me. I just couldn't come up with the word. In the depression, so they were very reuse conscious and so we grew up with reuse consciousness. And then kind of, our parents tried – I mean, in my mind, my mom kind of moved into this thing, and I think it was kind of the television – the Tupperware view and we're going to have all – everything, and we're going to open everything out of a can, you know, kind of the – we want to be modern women, whatever, so we really learned our reuse, I think, people in the '60s as we were coming of age in the '60s, learned our reuse philosophies from our grandparents who were really a big reuse age. I don't know. And then I think it's kind of gone away again.

I: Yeah.

M: I think students this year – I really noticed, I work at orientations a lot, and this – for the last probably six years, it's been really good, students have been really energy conscious, they were all very – paid attention to transportation, really energy conscious, and this year I noticed an odd step away from that again. And my thought is that maybe they're being over drilled with it in school as they're growing up to the point where they just don't care. It's like they have hopelessness – sense of hopelessness about it so they'll just do what they want to do.

I: Yeah. Interesting.

M: I don't know if that's true. It will be interesting to watch again this year. It's always interesting to watch, because it comes in a wave, you can kind of feel it as an overall sense of orientations.

I: That's interesting.

M: Yeah, I really – I was really disappointed last year. There were a lot of people that were like, No, I'm driving. Really, you're driving, you know, and we have all these opportunities, you really won't want a car in Missoula. No, I'm driving.

I: That's interesting.

M: This is really weird. So we'll see if that continues or if that was just an odd group.

I: Yeah. I'd be interested to know.

M: I hope not.

I: I hope not, too.

M: I hope it's not a swing the wrong way. But I've also heard that of the eco reps that work through the sustainability coordinator, the ASUM, sustainability coordinator also said they were struggling with that in the dorms.

I: Really. Interesting. Yikes.

M: Yeah. It's very interesting to see the waves of things, you know.

I: Yeah. I'd be interested to see where that goes. Hopefully that's not a trend.

M: Yeah, I hope it's not. Maybe it will be just a short trend. I don't know. But I do think we have to be careful – in my mind, I think it's really important for educators to always add while they're giving

kids the bad statistics of where the world is going to add that we really don't know. There's a lot of things we really don't know about what our behavior changes can do. So there's some sense of hope or something, I mean, to give people the real doom and gloom all the time is just – doesn't help people be very productive. It's like well we're going anyway folks [sarcastic, laughing].

I: Exactly. That's hopelessness you mentioned.

M: Yeah, I think you really have to give people the sense of hope as you give them the bad news. I watch a lot of different websites. The 350 folks and stuff, and he's pretty good – what's that guy's name that does the 350.org?

I: Is it Erlich (sp?)?

M: This guy is really good.

I: McKibbon (sp?).

M: Yeah, he's actually pretty good. He's got a little positive – it's an urgent but yet positive message. Where I think like Al Gore and some of the other people have kind of gone to just urgent – past urgent, hopelessness that I don't think is very helpful to young people, in particular.

I: That's very interesting. And how about for you, do you feel like your motivated by the hope of what can be accomplished in terms of your own personal behaviors or –

M: Hmmm…That's interesting. I think I'm motivated by – so it sounds really geeky – but just by where we live. We live in such a pristine beautiful place that that's what I'm motivated by is preserving our place.

I: Yeah, sure. Yeah. That makes a lot of sense. That's actually the next kind of series of questions I was – it relates to your discussion of your grandparents and also this – I'm wondering kind of how you got started being cognizant of energy issues and making decisions that include trying to be efficient about transportation –

M: My background is Scotch so, you know, [laughing] mostly it was money motivated as a child. It was like we saved everything. We're Scotch. That was the original reason why, but I think – and money is a motivator but not a very good motivator for me. I've always just kind of thought of it as funny colored paper. It just doesn't matter particularly. It more matters what you're doing and why you're doing it. So, I don't know. For me, mine is just more like being a good citizen of the earth, you know, kind of thing. I'm from the '60s.

I: That's great. I was going to ask next kind of what keeps you motivated? What started you off but what keeps you going?

M: You know, yeah, right now, like this job and why I'm interested in transportation in Missoula, Montana is because I believe that transportation and giving ourselves over to the oil, you know, realm, as I believe we were kind of forced into, has really changed our communities into something that makes us not be community oriented, and I believe that falling out of touch with your community is what makes people unhappy and continue to just try and consume, consume, consume because they're unhappy so they're just trying to fill something, they're just consuming, that what they're really trying to get back is the thing they gave away and that's a sense of community and belonging, which I believe that you get

when you're saying hello to your neighbors and you're getting to know each other, which doesn't happen in a car.

I: Yeah.

M: I say this a lot about riding the bus, when you get in your car in the morning and you're driving to work, you're pissed off at everybody in your way and everything is in your way, the red light's in your way, the person that wants to cross the street is in your way, everybody's in your way, but when you go out and wait at a bus stop for a bus to come by, you check out your surroundings, you see whose there, you get on the bus, you can see lots of people less fortunate than you, you're filled with gratitude, people are not in your way, they're with you on your path to get there. So you just join the sense of community. You have a much better sense of community. You're worried about the old lady that didn't get a seat on the bus and, you know, it's just – you just get into a different frame, mental frame than you do in your car with your little piece of metal around you.

I: Yeah. That makes a lot of sense. And if you're willing, talk a little more about being a good global citizen, kind of what that means to you and where that idea kind of came from for you.

M: Well, I think, for me, what it means is that I really want to preserve the beauty that I've seen. My best example here would be as a child growing up we used to go to Yellowstone and it was a very pristine beautiful place and bears were there and – there were people there but there were not – and there were people in lines in cars but the people and the cars did not overtake Yellowstone. I can hardly go there anymore because there's so much pavement and it's all designed to make cars enter better and I think we gave away one of our world's beauties to the car, for God sakes, when we could have said you can only enter this beautiful pristine place in some – a bus. You may only come in here in a bus and you may come in and go out and you will be led in and led out and we will let it stay wild, and we failed at that. So I'd like to see us do better than that here. And I've seen a lot of failed communities. Look at Seattle, it's a failed community as far as I'm concerned; beautiful pristine place that they gave over to the car. And it's really hard work not to let that happen because, again, once you get inside your little vehicle and you were promised the open road, you want the open road, you know, we were sold the American dream in the car ads that – the woman with her scarf blowing in the wind as she drives as fast as she wants down the highway all by herself, and that's what everybody wants, and it's an unrealistic vision that was sold to us by the automotive people. And I believe it's caused a lot of real problems in our – saving our earth, you know.

I: Yeah, that's interesting. So for you, would you say the – kind of the natural areas, the preservation of natural areas and this idea of community are kind of linked or –

M: Absolutely.

I: -- separate or –

M: No, they're very linked. Because if we don't live – well, look at Europe. Europe gets it. You live in a community together and you protect your outlying land and they do that because they have to because it's a small space with lots of people. And here we have lots of space with – especially in Montana, very few people – but even though we have very few people, we're being really wasteful with our land. So, you know, it doesn't matter that we have very few people, and that makes it much harder for us to fight the battles of community development and living in dense communities. People are "I'm so afraid I'm not going to have all this land that I really don't want because it's too much work but I think I want it." I mean, I have fallen victim to the idea of going for a Sunday drive out in the woods and thought, Oh, I'd love to live out here, but, you know – I say this a lot [laughing], people forgot to finish

that thought, you're not just living out there, you're out there for a minute and then you're driving the rest of your life because you want to come in to go to school and shop. So we should live together and then go out to see our beauty instead of all wanting to live in our beauty. But Montanans wouldn't like that if we tried to regulate that or legislate that or whatever. I guess that's why we need a – you know why democracy doesn't always work for the protection of, you know, what we have that we care about.

N1.10 Glen

I: Great. Very good stuff. So if it's okay with you, I thought we'd start with transportation and then do residential stuff, if that's okay.

G: For sure.

I: So how do you mainly get yourself and your family around town?

G: Yeah, you know, right now we drive a car, and that's because there's ice on the roads. We have young kids so there's lots of safety issues and car seats and blah, blah, blah. But when it's warm, one of us usually drives – my wife or me – we're a one-car family – and the other rides a bike. I often ride the bus as well, like on a day like today, I rode the bus. But, yes, sustainable transportation – I used to work for Missoula In Motion and so it's something, you know, very near and dear, and when it's warm, you know, we have a bike trailer that both kids can ride in and that's what we choose to do; however family life doesn't always allow us to do that and/or the weather.

I: Sure. Absolutely.

G: I've taken some pretty nasty spills on my bike in the ice. That's usually – I usually ride until I fall and then that's always kind of the wakeup call and then I'll switch over to the bus. So, yeah.

I: Terrific. What kind of car do you guys have?

G: We have a Subaru Wagon, also completely cliché. A green Subaru Wagon with 2 dogs in the back and a roof carrier and, you know, you can probably – yeah. We're – we don't stand out that much here in Missoula.

I: Hey, that's all right. How did you decide to get that car? What appealed to you about that?

G: You know, I think it's probably a good marketing thing. It was a wagon and so it was kind of big enough to haul kids and all the gear that goes with what we like to do. And then with the All-Wheel drive, it gave us the ability to get out a little further as well and feel good about that. And fuel efficiency to a degree, although we actually went back in fuel efficiency when we bought the Subaru. We had a Toyota Corolla before which was about 34 miles to the gallon, and I think the Subaru is more around like 26, 27. So, you know, we knew we were doing that and I think for an All-Wheel drive or 4-wheel drive, Subarus are good on the efficiency end but, again, we took a step back.

I: How about financial considerations, did that play a role at all in the –

G: As far as purchasing that vehicle? Not so much, to be honest with you. Yeah. Being a one-car family was also a financial decision as well as like an ethical one because, again, we want to not contribute to greenhouse gas emissions as much as possible, but gas is expensive too, and so, you know – but, no, as far as purchasing that particular vehicle, financial, we didn't consider that.

I: Okay. Great. And I was going to ask about gas mileage, and you already brought that up. If you were going to buy a new car, what do you think you would get?

G: You know, and, again, this is a family dictated thing rather than our ideal, but we would probably look at a minivan to be honest with you. And, in fact, we have kind of started that search already. And, again, that wouldn't be our ideal car, but that's what our family and our needs right now dictate.

I: And what is it about the minivan that kind of appeals to you?

G: Space, primarily, seating space. Currently with two car seats, my wife and I can ride in our car but no one else can. And so if friends are around and we're – we need to go somewhere that requires a car, we have to take 2 cars. Whereas, a van, we might be able to squeeze someone into that third row. And then when family comes to visit, which they do, each family member – like grandparents, our parents, they try to visit like twice a year to have some recognition for the grandkids and our kids are the only grandkids on both sides, and so also when they come to visit, if we had a minivan, we could all ride together and/or they wouldn't have to rent a car. So that's why we need the space. And, honestly, they're just really convenient when you have young kids. Like the Subaru is great but, you know, you have to lean over to put in the car seat and you don't have hands and, like, I never thought I would say this in a billion years but I mean it's nice, a lot of minivans these days you have a little thing on your key fob and the door opens for you and you don't have to – it's like all those things really do add up when you're a parent, and I know that sounds a little selfish but like –

I: I can imagine completely.

G: -- banging your head and having a sore back and never having any hands and, you know, just the juggles of kids and everything that goes with it. It's mostly that convenience.

I: Yeah, sure. I can picture these things as I'm imagining all the gear that I'm going to have to purchase over the next couple of months.

G: It's way more doable with one, if this is your first, it still is like a massive change, or it was for us. It's different for everyone but – then with 2, it makes it even that – because you're both occupied all the time; both your time and like your hands. Whereas, with 1, you know, 1 person can like carry the kid or the car seat and the other can haul all the stuff.

I: Open doors.

G: Right. Exactly. But that kind of goes away or diminishes when you have a second. So, yeah. Don't worry, all hope is not lost. It is a radical shift, though, or it was for us in so many ways.

I: I can't even – I don't even know. It's like I can't imagine. We're just ready for change.

G: Exactly. And that's all you can be. It's a good change. It just is a little bit shocking. You have a lot to look forward to. I'm excited for you.

I: Good. Well, I'm glad to hear that positive spin.

G: Absolutely.

I: I'm wondering in an ideal world with no constraints how you'd like to get around.

G: Biking is my absolute favorite form of transportation. So in an ideal world, that would be it. Definitely.

I: What appeals to you about the bike – how does that rise to the –

G: Several things. One is it makes me feel good about how I'm not contributing to emissions and all the things that go with that; that's an ethical thing I guess. Two, it is cheap; three, and this was – this is something that remains true before and after kids, the exercise benefits of it are huge to me. And, again, I think it's even ramped up more since I've had kids because you don't have all that extra time to go out and exercise and recreate and so building that into something I have to do anyway, which is a commute, I'm thankful for that and oftentimes that's the only 15 or 20 minutes of the day that I truly have to myself. Although, if I have the kids in the trailer, that's not necessarily the case, but you know what I mean.

I: Yeah.

G: And, again, that's the only built in exercise time I have right now when I can ride. I like the pace of it. It's a little bit slower, although it's faster than walking but I appreciate that being able to kind of take note of what's going on in my world. And then, you know, I just – it's less stressful for me as well. I'd much prefer riding along the river trail to work than waiting at lights and, you know, all those kind of stresses that you have when you drive. So for all those reasons, I prefer biking.

I: Yeah, that's great, makes a lot of sense. Have you made any other big decisions that relate to transportation, like where you live or travel decisions or anything that you feel like are important to cover?

G: We choose to live as close to town as possible, and that is definitely for transportation. I would love to live, you know, 15 minutes outside of town, you're ideal ranchette, blah, blah, blah, you know, Montana rural lifestyle, but we intentionally rally against that actually for lots of reasons. So, yeah, we've chosen to live -- the closest we could live on our budget was the Franklin neighborhood, but I don't think we would ever purchase a home that wasn't at least that close to the center of town or closer. And that has everything to do with transportation. And sort of a land ethic, like a land use ethic that, you know, we do not want to contribute to urban sprawl and we do believe in kind of shared public gardens and open space and all of that. And so, yeah, we choose to live as close to the urban core as possible, if you would call this an urban core, but – yeah. For here it is.

I: Sure.

G: So, yeah, we definitely choose to live close so that we can bike and walk as much as possible.

I: That's great. So switching over to home questions; do you live in a house or an apartment?

G: House.

I: And are you guys renting or buying?

G: We own, or we're paying our mortgage.

I: I just ask that because that impacts a lot, like whose paying for energy and that kind of thing.

G: Yep.

I: So can you tell me a little bit about energy use in your house, just kind of what – how you handle electricity and heating and cooling and that kind of thing?

G: Yeah, like what our systems are?

I: Just kind of what's important thoughts for you about it. Is it a consideration in your daily life or no?

G: I mean, this is another thing that shifts a little bit with kids, like ideally and before we had kids, you know, we would have our thermostat set for 64 degrees, you know, and when you have babies, especially, you can't do that, and so we bumped it to like 68, but we have a programmable thermostat and we turn it way down when we're sleeping or we have it programmed to do that. We've done some energy efficiency improvements since we've lived there. We installed new windows. We just bought a new storm door this year to try to help with that. We could definitely use more insulation, and I think that that's probably what we'll try to do this upcoming year. And then, yeah, we definitely monitor water use as well. I consider than energy thing in the end. And so we definitely try to monitor that. And then like, again, when we can, we hang our laundry rather than dry it in a dryer. I think those are kind of the main things. Turn off lights. Try to teach that to our 3 year old, like, you know, when he's brushing his teeth, we have him turn off the water and we tell him why. And same with lights, he likes to turn lights on and leave them on but, you know, we try to tell him, well, you know, we don't want to waste energy and so when we leave a room or not around, we turn lights off. So those types of things.

I: Have you lived there then the whole time that you've lived in Missoula?

G: No, we haven't. We rented for a while. We've lived in our house for – it was 5 years in August, I think, so 5 years.

I: Okay. Great.

G: Another thing, too, we've done is we slowly are converting our yard into raised garden beds so that we can grow our own food, and that goes back to transportation and energy. I'm sure you know all of those inner workings.

I: That's great. I was actually going to come back to the gardening you mentioned that was an important thing for you. Tell me a little bit about your – kind of how you got into gardening or why – what's important to you about it.

G: I always liked plants and gardening just growing up. I mean, I remember I took this on my own when I was young, I just experimented with a little vegetable garden in my backyard at home, even though my parents weren't into it at all, didn't – they were just kind of like, oh, yeah, sure, go have fun. And then my job in California was, I was a native plant and invasive weed outreach and education coordinator for this 6,000-acre piece of public land on the central coast, and that kind of raised it to the obsessive level because we not only removed invasive weeds, and it was a huge problem there, but we collected native seeds from the stock on the public preserve and raised our own native plants in a greenhouse to put back where we would remove invasive weeds in our restoration projects. So I got way into it then. That's different than sort of urban agriculture but – that's another thing we've done with our yard is we removed yard for gardening for food as well as we have lots of native beds too that we try to like grow them every year, they take up a little bit more space. So, yeah.

I: So how does it connect with you for energy in your mind?

G: Well, for energy wise, you know, you're using less water and there are all those connections for sure. I guess that's the main one for native plants. As far as food goes, we connect with it in that the transportation costs, which are energy costs, of importing food – not just importing food from other countries aka South America right now but, you know, even just driving them within the United States from California or whatever, you know, if you could shrink that footprint, then there's a huge energy savings for the world, you know, there, I guess. And also I know that there's a huge energy cost in processing food as well. If we grow our own food and we eat as simple and whole as possible, I guess, we help to lessen those food processing costs as well. And refrigeration and everything that goes with those giant scales, you know, agribusiness I guess.

I: That's good. That's a really good point. How did you get started with saving energy or being interested in, you know, greener transportation, that kind of thing?

G: Yeah. A lot of it started in – well, a lot of it started in West Virginia. When I went to college, I started out as an environmental protection major, that's not what I ended up getting a degree in but – I think I was attracted to those things. When I was in high school, I was an exchange student to Australia, and they had a much more advanced, I feel like, kind of green conscious, if you will, and I was exposed to that, and that was something I held on to and then just kind of further explored it, and it just grew as I got back and then kind of – there was a little dip in college just because I was partying hard, to be honest with you -- I went to just a giant state school and so, you know, it is what it is. And then when I moved to California, again, there's a very elevated, at least from where I moved from, kind of green conscious. And that's the sector I was working into and so I was surrounded by it personally and professionally. And because I already was a – I had open arms to it, it felt like I fit it, and so that's where a lot of that sort of green ethic and energy efficiency stuff progressed rapidly there. And then Missoula has that same vibe – not same – similar. Again, we moved here, I mentioned, because of – we thought it was a progressive community and we were seeking that out and so, again, I feel like a lot of the nonprofits and services and things that you hear about that make Missoula amazing and unique all somehow you can relate back to energy efficiency and energy savings. So it just keeps getting perpetuated by all of that, by this community.

I: That was actually going to be my next question is kind of what keeps you going on, you know, the – because there can be inconveniences and being energy efficient and transportation efficient, how do you kind of keep motivated to be doing it?

G: How do I keep motivated? You know, one, it makes me feel good. I guess that's a selfish thing. Two, I keep motivated by – again, I feel like I am helping to, like, improve the world. Again, I think that goes right with that comment I said before, that makes me feel good. I think it helps in Missoula that those kinds of things are fun, like, you know, if you go volunteer at Garden City Harvest or if you participate in like Sunday Streets Missoula, it just is fun, so that keeps you going. There's a large community of other people doing it so you can kind of do it together. I mean, another thing, and this is a little bit more heavy, but it's something that I want my kids to have that ethic and so as part of just like a parenting goal, that also keeps me going. So those are probably all the things. And I'd be lying if I said monetary savings wasn't a motivator, because it is at this point. And never, ever thought I would call my friend to get like tax advice or insurance advice or like retirement, 401K, and all these things, and I sound like such a yuppie, for a lot of people no matter what you are, those things enter into your life at some point. They're in mine now and, you know, saving money is a big deal, and it all goes back to building a good future for your family, which is an important thing, and I don't feel bad about that.

N1.11 Paul

I: I'm wondering, how do you mainly get around town?

P: Bicycle, number one. Public transit is number one in the winter. I choose my apartment based on where it's located within the Mountain Line system. I want to be pretty close, right now I'm in the middle of two major routes and I can catch three going home. That's pretty nice. During the summer I bike everywhere, and I also have a vehicle, a car, that I use for long distance travel and for hauling, you know, if I can't fit it on a bike or a backpack, then I have a very small car that I can sometimes get stuff in to. It's not a problem.
I: How do you choose between, you've mentioned the large loads, how do you choose between in general if you are going to bike or ride the bus or take your car?
P: Weather. If it's bad out I'll take the bus. If it's great out, bike no matter what, until it gets really cold or bad weather, rainy or snowy. Usually snowy before rain. I'll ride in the rain. But I think the bus is just convenient as well. It's almost faster to take the bus if I want to go to campus, just less flexible in terms of where I want to go throughout the day. Car, it just takes like something I can't carry, and really if I need to get it somewhere. One exception is that I will usually take a car if it's more than 3 or 4 miles, then it starts becoming very difficult for me to ride that far in a way that kind of makes sense to me. That's where it gets outside of my comfort levels, because I think in some ways that's where we get outside really good streets that are designed for bikes so I don't want to ride on Reserve on my bike, that's suicide and so unsafe.
I: That's a good point. So tell me a little bit about your car. What kind of car do you have?
P: I have a Jetta. 2001 Jetta. 2002 Jetta, or something like that. Pretty small. 25 miles per gallon or so, or there abouts. I think more actually is what I actually get from the calculations I've done. But I don't drive it very often, so, mostly out of town is what I mean. Like I try to avoid going to Reserve street so I usually don't drive to Reserve very often. I just try to avoid it if at all possible. But I will use my car if I go up to Flathead or something.
I: What appealed to you about that car when you originally got it?
P: Safety. I actually bought it when I was sixteen and a half. Saved up for years to get it. I wasn't as involved in the environmental stuff when I first got it. I was pretty young. You know I cared about environmental issues but maybe didn't know exactly what to do about them. So fuel mileage was good for financial reasons. I can barely afford the car. But the safety was big, lots of airbags and stuff like that. Parental involvement in the decision.
I: They liked safety.
P: You're not going to buy that car, you're going to buy this one.
I: That was nice of you to involve them. I was actually going to ask, did the fuel, the mileage play a role in the decision on that car?
P: Sure, sure. But I don't think I was going to buy a truck anyway, you know. Mid sized vehicles kind of all have the same fuel economy it seemed like. This was before fuel economy became, like, a really big deal. You know we're talking like 2006.
I: I was also going to ask you if financial considerations played a role in your decision?
P: Definitely. That was probably one of the biggest limitations because I had only saved up so much money, so I had to spend within that limit.
I: I'm wondering if you were going to buy a new car, what would you like to get? What would be your ideal?
P: If I was going to buy a new car…
I: It could be a used car, another car.
P: Okay, yeah. Definitely fuel economy probably number one, because I don't drive it very often, but when I do it typically is over long distances. I'm less concerned about city fuel gas mileage. It's the long distances what's important for me. One thing that I would really like to look in to is making sure I can do this with my current car, but I'd like a better system for being able to throw bikes on the back, and maybe just being able to haul, generally not large items, but just be able to pop open the trunk and extend things through the back seats. Just little things like that that make the uses that I have for it, hauling and long distance, I want to make sure that those are both taken care of.
I: Would you have anything in mind, any particular type of vehicle?

P: I haven't even looked at a car. The car I have I'll drive until it dies and then move on from…maybe live in a city where I don't need a car by then.
I: This kind of sounds like a similar questions, but I'm wondering if in an ideal world how would you like to get around? It would be by car, it could be by anyway, but if there were no constraints, how would you like to get around?
P: I love public transit for long distances and bike for short. I think that buses are great for Missoula. I was just in DC, subways were awesome. You know, just phenomenal. But even then, DC has great subways but the bike lanes don't exist. It's very dangerous to ride, to be on the road. So I think having separate bike lanes, maybe even separated from the main road, cycle tracks and such, combined with long distance transit options would be ideal. Especially if I lived outside of a city. Being able to take that subway, with my bike on the subway somehow, to the city and then ride every where else would be ideal.
I: That's great. You mentioned your house. I'm wondering if you've made any other big decisions about your life that related to transportation. Like you mentioned that you chose where you live.
P: I think that typically bike parking is important, although I don't have a really nice bike, but I have a bike that I think I want to take good care of. So I do tend to store bikes inside. Having a good place inside your house where you can actually store your bike. Right now I live in an apartment so I have to carry my bike up a flight of stairs. But it's a straight shot so there's no turns or curves. Me carrying a bike up the stairs is pretty feasible and easy to do. At the same time, it does have covered bike parking under the staircase which is not ideal because it's kind of an area that I would say doesn't keep it entirely dry. But it's also not lit, so I think the potential for theft is pretty high. And I live right downtown, so.
I: You mentioned living on a bus line?
P: Yeah, I try to live near them. Especially lines 1 and 12, which run by campus. And 8 also runs by campus and makes a pass right by my house as well.
I: Great. I think we'll switch over to housing. You mentioned that you live in an apartment.
P: I do.
I: Are you renting I would guess?
P: I rent, yeah.
I: What appealed to you about this particular place?
P: The people in particular that live there I think. It's a really nice place. It's old, it's cheap to live in, rent is really low. We don't pay for utilities which I think is an interesting dynamic because it doesn't necessarily encourage us to save energy, but we still are all the same crowd who would anyway. But it also means not worrying so much about bills in the winter when the expenses are really high because of gas, you know prices, natural gas prices, which is what it's heated with. It's just a nice apartment in general. Very cozy and old and the people living there were really great, so I moved in with them.
I: Great. So, tell me a little about energy use in your house. What are your thoughts about energy use in your house, or how do you approach that issue?
P: We don't worry about it too much, mostly because it is just kind of second nature for a lot of us. Low energy use is always ideal, and we keep the house pretty cool and don't have air conditioning like everyone else. But, I think that we do our best to reduce energy, water consumption is pretty low. We're able to minimize the overall….It's hard for me to tell you everything we do because it's kind of just something we do naturally, cause we've been doing this for so long. You've got your CFL's, you've got your low flow shower heads, you've got all of the things you do to try to reduce the amount of resources you're using in general, not just energy, but water. And then I think that we did a lot of weatherizing of the apartment because it's a really old building. The windows were all really, really bad. But at the same time we could have done more, we could have caulked the windows better, because we had this weatherizing plastic over our windows, but there's still areas where there's drafts coming in so it doesn't do as good of job as it should in terms of insulating the apartment. But we did the best we could in the short notice we had before winter showed up because I had just moved in.
I: And, it's probably, as you mentioned, a different dynamic when you don't save the money and also you don't own the house. Do you feel like that?

P: I would say definitely the first one, saving the money. When you don't own the house it may not be as big of a deal except when you have to do those major renovations. Like recaulking a window wouldn't be too big of a deal, but to some extent some of the windows just need to be replaced. That is a major expense and not something that renters would ever take on.
I: Right, sure. I'm wondering, you seem like you are a very energy efficient person, you are very aware of these issues and transportation efficient and all of that. How do you feel you got started on being interested in that and being active?
P: Being involved on campus was probably one of the big ones. I did some environmental stuff in high school, towards the end of my high school career. But being a member of UM CAN has been huge. Working on a lot of different projects and over the years I've moved up in the ranks, attended conferences that involved dealing with the environment, environmental issues, and kind of connecting with people from around the state and around the country who are working on similar projects.
I: What would you say kind of keeps you motivated to keep riding your bike when you could drive, or you know, the weatherization or whatever it might be?
P: I remember we had a long conversation with a bunch of the people who were in DC with me. I think that the motivation is an interesting one for me because I don't feel that I'm motivated too much by any one thing. For me, it feels like the right thing to do. It makes sense. There's no need for me to look at the wilderness and think, "wow I need to protect this place because it's really special." Those are special places, but for me it's a society that's really being efficient and taking care of its resources, that's doing this, this and this, and that involves protecting wilderness areas, that involves cutting back on transportation, that involves living efficiently in your home. All those things add up to kind of this overall message we're trying to push, which is "be responsible and don't overdo it." I can't tell you that there is one thing that really pushes me, but it's kind of the overall understanding that this is the right thing to do.
I: Yeah, that's great. Did you grow up in a household that was like that, or did it come to you later on.
P: I think that I grew in a household where you were always encouraged to do the right thing. Parents that I would regard as very good people, but not very active people, very apathetic I would say. Politically I think they would vote any way I tell them to, not because they don't know how to think for themselves or anything like that, but because they just think that they have bigger things to worry about. Um. Both small business owners very wrapped up in the work they do. Um. So. It's ah, I don't know. I grew up knowing it was the right thing to do and not really knowing…..and it's just, why not do it that way kind of thing.
I: You mentioned an efficient society. Is that kind of a motivating force for you?
P: And a just society I think, you know. I mean, our energy system is heavily weighted against low income individuals. It's no secret that every refinery that's ever been built has been built in a poor, black, or I guess we should just say nonwhite neighborhood, especially in MT where it tends to be built around areas that are housing indigenous people. No surprise that we are mining uranium on reservations and poor, and more importantly putting reservations where uranium mines are. Um. Because it's land that we don't want, and I think that, kind of understanding the system that you're buying in to by purchasing energy and the impact that has on people. It's hard to forget, it's hard to ignore. I wouldn't say that I try to be too, to push that too much, but I think it's very important to me. And it may be the one thing that I don't talk a lot about but it's the thing that I do care a lot about.

N1.12 Joel
I: So if it is okay with you I thought we could start with questions about transportation, how you get around and then do some energy questions if that is okay. So, how do you mainly get around town?
J: By bike. I don't have a car. I pretty much bike everywhere although my girlfriend does have a car and I will catch a ride with her from time to time. Then I used to live really close to the Park & Ride just by, you know where Dornblazer [?] is, so I used to live on Livingston, right by there. It was super easy to catch the Park & Ride and so I would take the U buses from there. Where I live right now I have to catch two buses and it takes like 39 minutes to get from my house to downtown. It is about a 15-minute bike

ride. So hopefully I don't have to not bike too much during the winter, not looking forward to that. Yeah, that is pretty much it. Occasionally I walk but try not to; usually it is when I have a flat tire.
I: Tell me about your decision about not to have a car.
J: Well, I don't think is that necessarily…it just works for me right now. In all honesty, I have enough friends or friends who are interested in getting out--I don't know if I have enough friends or not! – but I have enough friends who want to get out. So if I want to get out on the weekend, it usually is not a problem to borrow a car or catch a ride with someone else. Around town, I would rather save the money. Although, I am thinking…. It is easy not to have a car when most of your life revolves around campus and like, you know, maybe within a 5 square mile radius. But, this spring, hopefully, I can get a truck for road tripping and stuff after I graduate.
I: You mentioned a truck. What would you like to get whenever you do get a car?
J: Something affordable, hopefully a good gas mileage kind of a truck but something with a canopy that I can sleep in the back if need be. I also thought about getting a minivan and turning it into a camper but I don't know. I have had friends that have some. You can get them more outfitted for road trips. That is not the only reason I would get it but I don't necessarily see myself being super stable in the next few years after I graduate so it would be nice to have a vehicle that I could live in or at least sleep in on trips.
I: You mentioned fuel economy; tell me a little bit about why that is important.
J: Well, financially that is really important. I do kind of feel whenever I drive a car, "ah, I am committing a sin here." But, I don't know, the better the gas mileage the more money you save and the better it is for our atmosphere, our surroundings for sure.
I: So, in an ideal world, how would you like to get around if you didn't have any kind of restrictions?
J: An ideal world? Well, my brother actually works on electric bikes. He words on electric bike motors in Portland and it is not a bad way to go. I do like biking. I think it is healthy, obviously, even if I am so busy I feel like I can't exercise even though I probably do have the time. It is like I have to get to school so I get at least a 15-minute bike ride in. I like biking a lot. I think what is key is you know effectively-planned communities. Are people really working on, like okay, where is the grocery store going to be, how is it going to be accessed, can we bike to this location? So, ideally, I guess I would bike and walk most of the time. I do enjoy driving a car from time to time on trips, just having the freedom to go on back roads or whatever. I do think that is not a super evil thing although sometimes I feel like I do see it as a necessary evil. Ideally, public transit in other countries is definitely way better. I have lived in India for a little bit. I was going to school at an international school there and it was super easy. Sometimes we would take a taxi but most of the time it was local buses and it is kind of a population density thing, too, and just the fact that most people don't have cars. So it does make sense there to. It seems like that is how things work. Once people get too much money, I don't know…. The public services that are there for people who don't have a lot of money start to dwindle. Ideally, we would have really good public transit when needed whether that would be trains or buses, I don't know about airplanes. And then good bike paths so you don't have to fight cars on the road and then just probably the key that you make sure that you don't have to really transport that far.
I: So that is great. Have you made any other big decisions that relate to transportation? It could be like where you live or vacation choices or anything like that that you would want to talk about?
J: It is interesting, but, so the organization UM CAN that I am a part of which is a student group which works on sustainability issues across campus and throughout our community…
I: Sounds like their mission.
J: Yeah. It is very similar. But, it is kind a cliché. But it is a good organization of students that want to do something and not all that we work on is climate related but what I am getting to is we went to this national power shift conference in D.C. last spring I believe and it was a cool conference. But, it is kind of ironic that we are asking for a power shift and everyone – the vast majority – everyone from the West coast flew. It's like, wait a minute here. I think people in the movement have picked up on that. But, at the same time, I think a lot of these people are not at the point where they are going to sacrifice flights. From what I have heard and from the research I have done, flying is a big part of our emissions as far as CO2

goes. It is kind of crazy. You can like double your whole CO2 emissions in a few flights – I don't exactly remember the stats unfortunately -- but I remember when I was going to Australia, when you get to Australia, you are kind of hanging out with these hippie people and "yeah, the earth…" but then everyone, like a lot of these foreigners had to fly on big jets to get here and it is kind of ironic. But, as far as making those decisions, it is hard, it is really hard. At one point, it was like "no, mom, I don't want to fly home for Thanksgiving." It is pretty cool to say that and I did want to go home but it was like I am going to try to find a ride but if I can't find a ride, then I probably should just stay here because it just doesn't make sense to fly around the country. I was probably a little more hardcore, but about a year ago, but I personally, I don't know, everyone has the ability to make decisions that affect the world around them and we constantly are kind of pushed to make decisions that are damaging I think so it is difficult to kind of break outside of that because the common trend is to fly for a vacation, do these things, fly home. It is hard, obviously, when your friends do it and your family expects it or whatever. It is just the nature of the way we live. So, yeah, it comes close to like it is a factor I guess and I did consider taking the train home but you have to get to Whitefish and it is a pain. I considered over the summer, my girlfriend lives in Whitefish and I considered visiting her via the train but I didn't because it was basically the same price as me driving and with me driving it would save two days and I only had five days off of work. So, it was like do I want a one-day vacation or a four-day vacation? Yeah, I think about it; but, unfortunately, sometimes it is hard to just go with the better alternative I guess as far as personal transportation.

I: That is helpful to walk through how you are thinking about this. So I am going to switch over to home energy use if that is okay. Do you live in a house or an apartment?

J: I live in a house.

I: Are you renting it or buying?

J: Renting. I live with two other housemates.

I: Are your utility bills part of your rent or do you pay them separately?

J: We pay them separately.

I: So you have control over like you can control your own heat and that kind of thing. I ask that just because some questions just aren't that relevant like if you live in an apartment and you don't get to control your own thermostat or something like that. What appealed to you about this house where you live now?

J: Well, basically, my friend just gave me a call and said do you want to move into a house with me and one other housemate? And I am like, okay, sure. It was all set up and I didn't really have time to look for a place. It was basically just convenient. It is not a bad location. I live on the west side so it is close to the train tracks but it is kind of a cool place. I guess in the energy scheme of things I wasn't like "oh, how efficient is this home?" But, I was a little concerned about how much we pay for utilities that is for sure. It is kind of weird because our landlord lives downstairs and we pay the bill for our utilities and our gas and electric and his gas and electric is the same bill. That kind of, I don't know. I have gone down there twice to leave off rent checks and both times all his lights are on and he's gone. I'm like I do not want to pay for this.

I: So he doesn't pay you back for his?

J: No, and that really kind of sucks because he can do whatever he wants. There is no incentive for him to make the decision to turn off those lights. I was kind of hesitant but it works out because he pays for our internet and the water but those are pretty much a fixed rate and don't increase in the winter but, whatever, it is something to consider I guess.

I: That is interesting. How do you guys make decisions about energy use in your house? Or do you talk about it together or does everybody just kind of do their own thing – not including your landlord sounds like you don't have a lot to say over him.

J: No. We don't really talk about it. I did mention to my housemate recently that she could turn off the stairway light but it's like I am telling my dad. "Did you turn off the light?" "Aw, I don't know." "Well I better go check." Other than that, we haven't really said like "okay, we are going to set the thermostat at 55˚." No, we haven't done any of that. Basically, in the downstairs at least we just have one natural gas stove and then we essentially just turn that on whenever we are there. Sitting next to the stove

for some reason is like a rare occasion. But, who knows what is going to happen…. I have never walked in the house and have it like 70˚ and no one is there. So we pretty much turn it down to 50˚ or something like that unless we are there in the room. I don't have heating in my room there is not vent there.
I: I am wondering, you mentioned your parents and that you have turned into your dad, but how did you kind of get started in your thoughts or your interests about energy efficiency or climate change. I know you are a member of the UM CAN. How did that get started for you that you became aware of these issues or got interested in them?
J: Good question. I don't know. It is like people ask me "why are you an environmentalist?" and I don't really know. I think basically it is just a progression. For me it is pretty obvious. I think my parents have always been pretty good about just not necessarily… My parents are not environmentalists, really. I am more on top of learning about climate change and learning about…I am probably more interested in wilderness protection which is pretty much unrelated to, slightly related, but not directly related to, energy use. I am more involved in those issues and kind of the activism side of things than they are for sure. But, I think they just have the mindset of you take what you need, you know, and more just because of like economics or the idea that you don't waste things. You turn off the light maybe because it is going to contribute to global warming but just because it will save us money and there is no purpose for the light to be on when we are gone. Therefore, it is just going to waste money and energy and energy is part of that, too, just wasting in general. I guess my parents kind of instilled those baseline values. My sister would take me out into the woods and "we are going to take water samples of this really weird-looking pond" so I was always kind of in to that because my sister is 6 years older than me. I think she kind of inspired me in that regard. There has always been, for me personally, a connection between the places I care about and what I do; and I feel like, as I learn more, I realized that so many things we do today are harmful to the places I care about. It is not just as simple as "oh, we need more national parks" or "we need more wilderness areas" or "we need to not clear cut everything on the face of the planet." It is not that simple. The problem is within society, it is within our over consumption. It is basically whether you call it greed or not, I feel it is pretty greedy whether or not we put that in perspective or not. Most people probably wouldn't call it greedy. But I guess as I learn more about the connection between what I do and how it makes an impact in the world around me, it just seems to be a natural progression to see that. I guess it is frustrating, too, because at times I feel like a lot of people see those connections and then it is really hard to act on them or people don't even care which is totally different. But for me personally, I guess – I don't even know what the question was….
I: How did you get into being interested in environmental issues or climate change issues?
J: Yeah. I guess climate change is pretty obvious. It is going to affect the whole world. Well, I was just like well if it is going to really impact everything, then I probably better learn something about it. Which is funny, because even the members of UM CAN, which is like the flagship in the climate change club, we don't know a lot about climate change. We are not experts, but it is basically kind of a cult in a way. It seems pretty obvious why I get involved in that sort of stuff and why I care to some extent. I think a lot of people, I don't know, I feel like a lot of people will…there is a lot of hypocrisy that goes on with environmentalists and even the term environmentalist is kind of like uhhhhhh [as in yuck]. "I can't believe you burn coal" but I am going to drive home, I am going to turn on my light and I am going to change my light bulbs but that's just a fraction. And if you look at the energy consumption over time…It started off our energy was like what we ate. Then we discovered fire. Our energy is, so then we burn some things and then we had a house. And then we had indoor heating. Oh, then we find a way to transport besides using just horses or whatever. It was like exponential function. As we get more money, it is more tempting to use more resources.
I: Yeah, absolutely.
J: That is how I see it I guess.
I: But that is good. That is really interesting. How do you kind of keep motivated to stay involved?
J: Well, that is a good question. I did drop out of, well I didn't drop out but, I actually haven't gone to any of the UM CAN meetings this semester and the reason for that is I am the President of the University of Montana Wilderness Association, which is an organization in partnership with the Montana

Wilderness Association which is a state much bigger organization, and we work on wilderness issues throughout the state and beyond the state as well to some extent. So, I see that is connected for me personally. I know that a lot of people don't see that connection but I have dropped out of the club [UM CAN] per se, that kind of involvement, but Power Shift was motivating to some extent, being around a group of people that were psyched from around the country and I think more importantly seeing speakers like I did meet Bill McKibbon there. I was just walking along the street and my friend was like "Hey, Bill" and I turned around and "Whoa, Bill McKibbon. All right." Shake his hand.

I: Celebrity of climate change.

J: Yeah, so that was kind of cool. He was like: "Yeah, it was a good day today." So that was cool. Reading helps but sometimes not because you can only read so much about issues and stuff. I don't know. What excites me, oh, actually, this is pretty inspiring. Wasn't it like 18,000, 12,000 people? I just read this, I should know, but it was at least 5 digits of people that surrounded D.C. saying that we don't want the Keystone XL pipeline – or not D.C. but the White House – and over 1,000 people were arrested a few months ago. And not your typical just crazy anarchists getting out there hating the world but normal people getting arrested just because they felt it was time. I think that that is pretty motivating. It is pretty inspiring. It is only going to build and whether or not it is going to build in time to really prevent bad things from happening, I don't know. But that is inspiring to see other people and being around other people – I was pretty involved in "all against the haul" stuff last semester. I see it is connected, you know, it is kind of like three spheres to work in. There are the personal decisions. I don't know if it is three spheres, I guess. But there is advocacy in the sense of like I am going to go out and advocate. I am going to write letters to the editor, sign petitions, write my representatives to try to make those bigger level policy changes and that is a lot of what UM CAN does and what I have done a little bit, well, a fair amount in the past, phone banking, making calls, annoying people during their dinner. The other way of making changes is personal decisions like whether or not you are going to ride your bike, whether or not…I like what Josh Schlotmick who was an instructor on campus said in one of his classes, actually in guest lecture – I did take one of his classes – but this was during a guest lecture and he said something about like, "you know, you can fight the corporations, not necessarily by going out and picketing," that is important and that type of fight is really important but – and by corporations I mean kind of that whole system of bad that I kind of push into one genre – but what he was saying was that every time you ride your bike, every time you eat a local meal with food from this area, every time you like have a potluck at your house and encourage people to make the food, you are contributing to a better world in that sense. Every time you shop at the co-op or the Good Food Store to some extent or at the farmer's market which is probably the most important, you are contributing to that type of society that you want to live in.

I: That is very interesting. And so was that the third you were going to say?

J: No, I thought there were three. I thought about this before but, no actually, I guess it is just kind of two. It is interesting because Missoula tends to have this kind of group think. I think it is on campus and in a lot of places it is being green is becoming trendy. I don't know, I feel like I just kind of caught the tail end of when green was not cool. But, before 2000, I remember I would talk about recycling or I would ride my bike. I grew up in a town that was pretty much "Normalville, USA." It is not like Missoula. There is no local food. There is no farmer's market in my town. When I go to WalMart I see at least one person from my high school guaranteed. Even if I go back now I will see people that I recognize and, you know, it is because it is the only place to shop and that is not necessarily – that is connected to energy use but because in order to get to WalMart you have to drive 20 minutes. So it is kind of interesting. It kind of killed the small town aspect of the town but, getting back to this town that I grew up in. It is not like Missoula because it doesn't have the group think mentality that is so prevalent here. Here, I think people don't really have to question so much their beliefs because of course it is a good idea to ride your bike. For the most part, at least a lot of the people that I associate with and that could just be a result of being the college of forestry and conservation and being involved in student groups and stuff. But I would say for the most part people aren't like "why are you going to bike to campus?" versus I would get that at home. I would get like "you have a car now. Why don't you just drive your car?" I am like "I'm saving money and getting exercise and it is better for the environment." Top three reasons. And

they're like "why?" There is just not that consciousness there. People don't see the connections and, if they do see them… You know, I think people obviously are the result of, yeah, there may be some predisposition for something, but also heavily impacted by their surroundings especially when they are young. So when people grow up, their families don't recycle or don't care about that, then they probably are not going to either. So even if you talk with a friend it's still not going to, if their family doesn't know how to work on bikes, they are not going to have a viable option there if they don't have the money to buy a bike or their parents are not really supportive of a bike. Oh yeah you should get a bike, not they'll say, you should save up for a car even though I know it is a piece of crud and it is going to break down in a couple of months or something.

N1.13 Rich

I: Okay. So I'm wondering how you mainly get around town?

R: I drive. I started in the last year or so to bicycle a little bit more and I would love to be able to use the bus more but it's not convenient enough, frankly. One of the reasons I do drive is that I go to a lot of meetings and a lot of times I don't have time in between them. Moderately lame excuse but I'm a stickler for showing up when I'm supposed to show up.

I: Right. And if you have to get al.l over town –

R: Well, a lot of it is downtown but a lot of it's not and you do go other places to meet. And even the distance between even downtown sometimes can be – if you're on foot or – bike is okay in the summer – I'm not a winter cyclist and never will be.

I: A little sketchy.

R: Yeah.

I: Well, that makes sense. So tell me about your car.

R: Actually, I used – I had 2 until not too long ago. I sold my BMW and I drive a pickup truck, gas guzzler.

I: Ford or –

R: Chevy.

I: We're a Ford family. That's okay.

R: I would probably never own another Ford.

I: I hear you.

R: I do have friends that have Fords.

I: Once you get loyal, you know, you just stick with it.

R: Well, I wouldn't buy a Dodge either.

I: And what appealed to you about this car, the truck?

R: I can haul stuff around. I'm a tool nut. (inaudible) buy a new tool, I can afford it, I don't tell my wife until after I bought it, and, you know, I have power this and power that. When people need a tool, they usually come to me to borrow it or have me use it.

I: And I'm wondering if when you purchased the car did you consider gas mileage at all? Was that important to you?

R: No, not at the time. I had just met my – now she's my wife, then she wasn't – but we were getting pretty close and she had a boat and no way to pull it, so I traded the car that I had, a Ford –

I: The last Ford.

R: Yeah, the last one. I traded that car in and she put a little bit of cash in it and that was our first venture financially together. So we bought it primarily to pull the boat. I will probably always want to a pickup truck, even if it's a smaller one. In fact, I'm looking for, we're actually getting ready to buy a house in Florida – they're half price – we're going to retire there, now's the time to buy a house. We've got family down there. And I'm probably going to buy a small pickup and park it in the garage, have it there when we go to visit, and then when we move down there, we'll have that as transportation.

I: And how about financial considerations, were they important in buying the truck, or not so much?

R: Back then, maybe a little bit. Right now we're fairly financially stable. All of our kids are, knock on wood, gainfully employed and very employable people. They don't rely on us for anything. I mean, literally. In fact, one of them bought us plane tickets to fly to Seattle to come visit, about 2 months ago. Come up and visit. So they've actually got enough money to help take care of us. So we don't – money is really not an issue, although we don't just throw it at that stuff either. My wife will not get in her car – she's a hairdresser – she rarely will set up day where she goes into work where that day isn't packed. She will move a client rather than start her car and drive to work for one client. Trade off isn't there for her. So we kind of watch when and where we go. Obviously, we've got to go to work but we don't run needless errands, and gas prices are part of that.

I: Sure. And I'm wondering if you were going to buy a new car, what do you think you'd get? You just mentioned the pickup. If you had to do it all over again, what would be your –

R: Smaller pickup, you know, one of the smaller versions. Yep.

I: And what appeals to you about that compared to what you've got?

R: Gas. I still want to be able to haul stuff around but I don't want to spend as much money on gas as I'm spending. But I'm actually one of those folks that thinks that gasoline is way underpriced, and I've been saying this for almost 30 years. This country subsidizes the automobile way too much. And if we were to pay the true price at the gas pump, for what impact the vehicles have, I'm not sure if that's the only place that it should be addressed, but it's certainly one of the places. I'm not sure we could afford it.

I: That's a very good point.

R: But I think gasoline should have at least an additional buck fifty to $2.00 tax on it per gallon.

I: And what are the kinds of costs that you're thinking of when you're – you mentioned if we would internalize all the costs?

R: I think that gas tax pays for new roads, first of all. I think we – Missoula is a great example of this – we build a lot of roads that if we had a little more forethought about how we live and get around, we would not be building developments out in open – what used to be farmers' fields. We'd be creating – and that's one of the things I do in my job is try to create density, because I think density is good for the environment but it's also good for (inaudible) tax base – I can generate more tax revenue in what I call the downtown with less lubrication of infrastructure, the roads are already there, power is already there, sewer is already there, and if I can fill that space in, grow up, fill in the empty spaces, I can generate way more taxes with less expenditure on the infrastructure, and that's the immediate sense. And then there's the long-term maintenance of that infrastructure. One of the things I try to do is get the city to do a better job of snow removal downtown, safe and clean, and snow touches both of those; tax base and creating a pedestrian place are at the root of everything I do in my job, if I'm going to be successful. And snow in the winter is an impediment to pedestrians. Big time.

I: Yeah, those are very good points. I'm wondering in an ideal world how you would like to get around, no constraints, what would –

R: I would walk – I'd actually try to get my wife to move downtown, but she won't. Our downtown is not safe enough. I know that may sound weird, but if you look at middle age – it's not just women but middle age and older generation folks, and I think a lot of other people are naïve about how safe downtown is, you've got to be able to – if you're going to live here, you've got to be able to walk out the door 24/7, 365 and not have to worry about some joker either panhandling you and being aggressive at it and listening to and hearing people getting murdered in the downtown and people having bar fights, and it's college students, it's not just the incorrigibles that we have, so to me, I actually spend a lot of time dealing with these issues.

I: So you probably know more than most about what's really going on.

R: Almost every one of the, what I call incorrigibles – these are homeless people that really don't seek help and I'm not sure we give them alternatives at this point, trying to create those alternatives – some of them are pretty harsh but some of them, if you pick the right door, you might actually help your life. We don't give them the choice. We just let them perpetuate. Most of those people, if not all of them, carry a form of defense, whether it's a gun, a knife – absolutely. You probably never thought about that?

I: No, I never did. That's a good point.

R: Most of them have mental problems and substance abuse as well. So if you happen to be the person in the wrong place at the wrong time, yep.

I: Yeah, that's a good point. Have you made any other big decisions you would say that relate to transportation, like where you live or how you travel, or anything? You don't have to. I just to make sure I'm not missing something.

R: Well, I was one of the king figures on getting the cycle paths on North Higgins. I've actually bridged – there's still a huge gap there but I've been a bridge I think between business interests and cycling interest in Missoula, primarily downtown. We've partnered together to get DOT to put these bike lanes in. I actually don't do it necessarily for bicyclists. I feel like if I'm creating a good bicycle environment, I'm almost automatically going to get a good pedestrian environment. They literally go hand-in –hand. I don't tell everybody that.

I: I'll strike that from the ---

R: Actually Alex knows – Alex and I have actually had words over the transportation issue and they're friends of mine – her and her husband, the kids – I felt like when they were doing the critical mass at 5:00 on Friday last summer, I thought, you know, you guys are taking steps – you're trying to get the community to accept cyclists and you are taking steps backwards.

I: Ticking everyone off a little. Yeah. That's a good point. So I'm going to switch over to home energy, if that's okay. Where do you live in town?

R: I live in Pleasant View. Behind Home Depot, in that big development there. When the kids left home, we downsized considerably. One big reason was the one time my wife – she's a clean-oholic, and she wanted less to clean, and we want to spend less money heating. As it were, I wanted to spend less time mowing. We lived on an acre. Just maintaining that was a chore.

I: So are you renting or do –

R: No, we own.

I: You own. I ask just because that sometimes impacts how people think about energy.

R: Oh, absolutely. Yeah, if you're renting, you don't have much say at all.

I: Yeah, exactly. So what appealed to you about this house? You mentioned the smaller size and the yard.

R: Well, we were going to build a smaller house. I actually got diagnosed with cancer in '05 and we had sold our big house and we had architectural plans for a new home and we were working with a builder and my wife's first husband died of non Hodgkin's lymphoma so she went nuts, so she wanted to be in a house. On a lark, we bought this house. We just happened to be going to some open houses and one of the girls that worked for me in the bank was selling her house and we thought, let's go take a peek, so we ended up buying it. We thought we'd be there a year, year and a half, and it's going to be 6 years in May.

I: It's worked out.

R: Yeah. Absolutely. It's a nice neighborhood. It's a young neighborhood, Hellgate Elementary School is across Flynn Lane from us, probably "the" best elementary / middle school system, easily in the State of Montana, as far as academics and progressiveness and maybe in the Northwest. So a lot of young families there.

I: Terrific. So tell me a little bit about energy use in your house, kind of what are the things you're thinking about, how you make decisions about energy, what are kind of the issues for you?

R: We turn our thermostats – you can go to my house right now and it's going to be 60 degrees, easy. We put in a little gas fireplace in our living room. In the winter, we heat just around the TV where we're sitting before we go to bed. We turn our thermostat down right after dinner, 6:30, 7:00, and it's the only part of the house we heat is where we're watching TV. We did some winterization. We added storm doors to the house, those kinds of things, make sure the insulation is where it needs to be. If there's cracks in the windows, we deal with them. So we try to keep our energy consumption down. Partially, we don't spend the money, but try not to waste.

I: Yeah, and that's what I was just going to ask next. What's kind of motivating your thoughts on energy?

R: Oh, yeah.

I: So kind of a combination of financial and not being wasteful?

R: Right. Absolutely,

I: Terrific. So I'm wondering kind of just to dig a little deeper on kind of where your thoughts come from on energy and transportation and that kind of thing. Do you think you feel like you live similar to how your family lived when you grew up? Is that kind of a big influencing factor? Or how did you kind of end up where you are on these issues?

R: I grew up pretty poor, and, you know, I don't think growing up anybody even thought about it. I grew up in the '50s and '60s, and for the most part energy was abundance. You didn't – there wasn't much conversation about it. It's cost – even though we were poor, we heated with coal, if you can believe that. We had a coal furnace in the house. I know even as a preteen I would be the one up first in the morning and I would start the coal fire and get the house warmed up for everybody else. I had that exposure to it but I don't think it was in any sense conservation discussion at all, no.

N1.14 Rachel

I: So, if it is okay with you, I will start with transportation type questions and then do home energy and then I have a few questions about energy-related issues. How do you get around town?

R: I walk a lot. I own a car but I don't use it very often because I live within walking distance to my job, to a grocery store, to downtown where there are restaurants and bars and entertainment, so I don't use my car a lot except to go out to Reserve to like Target or thrift store shopping or something.

I: How do you decide like when you are going to drive versus when you are going to walk, what are the sort of factors that make you decide to walk or take your car?

R: If I have meeting where I have to wear shoes that are nicer [laughs] that are not walker-friendly for long distances, then I might drive. If I have a meeting downtown from the university, that can be kind of a longer, like 25-minute walk, to the mayor's office. I try to plan to wear shoes that are more accommodating for walking downtown. I have lived in big cities, too, but I try to be a fashionista a little bit.

I: That is good. We need some more fashion in Missoula.

R: So, I try to actually walk wherever I go because I don't want to use my car because parking downtown is really crappy. I try to see how long I can go without filling up on gas. On the weekends, though, I will drive my car to Target. Usually I go with more than one person. I have three roommates so maybe one or two of my roommates or even a friend who does not have a car, I will take them. Usually I am not alone in my car and thrift store shopping because I do enjoy thrifting. So I guess the factors that are involved are depending on whom I am meeting and the weather. So if it is really, really bad weather, I might drive or if it is raining really hard or, you know, in my office. If I get really busy if you can't tell for how many times we've rescheduled this. but I am the only one that does everything. So sometimes I like to book things to the max and then I have to drive my car to get somewhere on time. Did that answer your question?

I: You mentioned that you try to not fill up your car very often. Just tell me a little bit about your thought process there.

R: I have an SUV, kind of a smaller SUV and it is kind of a gas guzzler. It is not the worst but it is not the best either. So I feel like I purposely picked where I live based on where I work and where I go to do grocery shopping and that I go downtown to have drinks with friends and dinner. So that was made so

I'm not spending more money on gas. So I don't fill up not more than once a month which, my gas tank is pretty small, so that's is okay.
I: Wow, that is really good.
R: It is not so much an eco as monetary thing. And a hassle thing as well. I just don't want to put the miles on my car because it is an older car but it has pretty low miles and I am trying to keep it lower even though I have made many trips to Portland and Seattle and even cross country to Ohio.
I: You mentioned that it is an SUV. How did you decide to get that car? What appealed to you about the car you have?
R: My mom bought it for me so it wasn't my decision at all. I told her that I needed a car when I moved, when I graduated from Missoula from here at the University of Montana, when I moved away and moved to a big city and I didn't have great public transportation for my job. It took nearly an hour to get to my job and it was only like 5½ miles away. So it was so annoying. You had to take this and do this and then do this. So, it was like that's it. I need a car plus my job really had me going all over town. My mother had bought my brother a car previously while he was in college and she hadn't done the same for me so I asked her if she could get me a car? So, yeah, she had a friend and their parent died and so they were selling the car. And she was like "I found a car for you" and this is what it is. I would not have chosen that had I had a choice because it doesn't even have four-wheel drive. When you live in Montana and a small SUV doesn't have four-wheel drive and the tires are city tires, it is just like so dumb. I was like no, you're no SUV. (Inaudible) It's useless. But it is great for moving across the country, for shoving stuff in it…
I: Well, that is part of my next question. If you were to get a new car, what would you like to get?
R: It would be great to have like a Prius. My roommate has one and it is an older one and I know now like hers the get up is a little bit bad, but I think they have fixed that in the last five years so the pick up is better. So, I would definitely look at that or some kind of hatchback because I do like the opportunity to shove a lot of my stuff. Even though I have been here for a few years, I like to feel like I am mobile like at any moment I could leave, even though I probably won't; but I like to feel like I can put a lot of possessions in the back if I needed to move across the country again. It would be… gas use would be a factor.
I: So tell me, you just mentioned a little bit about gas, what appeals to you about the Prius?
R: It doesn't use much gas so that would be the big thing for me. I guess you get the best of feeling good about your impact on the environment and you get to pay less for gas. Have your cake and eat it too I guess.
I: I am wondering, in an ideal world with no constraints, how would you like to get around?
R: I like being able to walk everywhere. I like walking. If forces me to…I am a very go-go-go type of person who always has a lot of things on my mind and so walking forces me to, since especially when its cold here you can't use your phone to text and e-mail. It is kind of the time for me, like the 15-minute walk from work to my house every morning and it is like a time when I get to listen to a podcast – my favorite podcast – and just the news and kind of chill out before I go to work, and then just go, go, go, go. It is also nice to walk to places like if you are going to drink downtown, it is nice to walk back because you don't' have to worry about being sober enough to drive, finding parking, and that type of things.
I: Very good answer. So, I am going to switch to energy, home energy use. I am wondering if you live in a house or an apartment.
R: I live in a house.
I: And are you guys renting or buying.
R: Renting.
I: So with your rent, are the utilities included or do you pay for the utilities as a separate thing?
R: Well, we pay for the gas and the electric.
I: The reason I ask is that if the utilities are included, people don't have control over their utilities, so it is just kind or relevant for what I am doing. How do you or you and your roommates make decisions about where to set the heat, or use the electricity and that kind of thing?

R: Well, we have what I call "thermostat wars." I am the one that pushes the thermostat up and my roommate --who actually lives in the basement oddly enough --is the one who turns it down. I think the thermostat should be set at a place where I can wear socks and sweatpants and sweatshirt and be comfortable. My roommate thinks I should put on more clothes until she feels uncomfortable. I guess I am a person who gets cold easily. It is really hard to say where our thermostat is set to because there is a giant vent like 3' long by 1' tall right under the thermostat for the entire house. So any time we turn it up, we try to keep it at 65˚, but is that really 65˚? It turns off when it feels 65˚, but the vent is right under it in the wall, maybe 3' below it, so it is really asinine. So you never really know how warm it is because people say "oh, it is 65˚." "How do you know it is 65˚? It is an old home to you and my bedroom is right above the laundry room which doesn't get heated that well. I have a couple of windows so I have put up velevet draping and close the blinds and it is like black in there because I try to contain the heat. In the basement, she has a space heater and she tries to click it on when she thinks it is too cold at night. Then in the upper stairs we like burn up because they are like what the hell are you guys doing. So we turn it down and up. We try to turn it up a little bit so it is comfortable to sleep and then during the day we try to turn it down to 62˚. Like this morning when I left I did it. But half my roommates don't have classes today so they are home all day and they will probably turn it up because they are home. It is long and complicated.
I: That is what I am trying to get at is how do these things happen in people's lives. What do they think about?
R: When I got the first bill for this season, last year we kept it up not that high, probably to 70˚ or so and everyone was kind of happy for the first month of coldness to see how our bill would be. Anyway, when we got it, it was like $400. So then we weatherized. We got the free weatherization kids from Northwestern Energy which you could only get one. But, we did all that and it helps and then we also try to keep it down and that is what started the thermostat wars last year. So, now we just weatherized last weekend and took a few hours out to try to do the plastic all over and got half way through the house.
I: So, doing the weatherization and things, what is kind of motivating you there?
R: To save money.
I: Yeah, that is an expensive heating bill.
R: I think it is definitely more money than it is the environment.

N1.15 Liz
I: Okay. So I'm wondering how do you mainly get yourself around town.

L: I bike mostly.

I: Okay. Great. And do you own a car?

L: Yep, I do.

I: What kind of car do you have?

L: I have an '86 Honda Accord.

I: Okay. Cool.

L: Yep.

I: And what appealed to you about that car?

L: That car, it was in my price range, I paid for it in cash, and it's my car.

I: Great. And in terms of biking, do you bike mainly to school or other places as well or –

L: For about the last year, I bike everywhere. I mean, the last couple of days I've used my car but all winter I use the bus system. I don't use my car all that often.

I: And tell me a little bit about kind of how you decide when you're going to ride the bus or when you're going to bike or when you're going to drive, how you think through that whole thing.

L: Mostly it just depends on the morning. Like I get up, give myself enough time to bike to school, and then anywhere I have to go from school is on my bike. Once I have my bike in the morning, it's a biking day. Whereas, you know, like the last couple of mornings, or even yesterday morning I biked first and then I got to school and was covered in mud and decided I did not want to bike the rest of the day. It just kind of depends on the weather. When it was snowy – even when it first snowed, I was still biking but then it was icy so it was time to take the bus. Just weather really depends on whether or not I'm going to drive.

I: Sure. So do you park on campus then when you drive here or –

L: No, I park off campus.

I: Yeah, that's always a tricky thing with driving to school.

L: Yeah, just kind of gave up but I'm park – I'll give myself enough time to pretty much walk from Higgins because there's just never parking.

I: Yeah, sure. So I'm wondering did gas mileage play a role at all in buying that Honda?

L: Uh-huh. It definitely did. I wanted something with high gas mileage. So when I bought my car, it was right after we moved here and I knew I was going to go back and forth to Helena a lot, so wanted something with good gas mileage.

I: And talk me through a little bit kind of the rationale for gas mileage, what made it important to you?

L: That I would be happy to fill up my own gas tank and I wasn't making a lot of money.

I: Sure.

L: Yeah.

I: And so did – it sounds like maybe did financial considerations play a role when you bought the car as well? You mentioned you paid cash and –

L: Yeah, definitely. I wasn't getting – I mean – I had to buy my own car so it had to be in my price range based on what I had worked and was going to work.

I: Yeah, sure. All good reasons to be responsible. So I'm wondering if you were going to buy a new car, what do you think you'd like to get? And by new, I don't mean like a brand-new, it could be a used car but just another car.

L: If I were going to get another car..ummm…something newer. I would want something that was only like 10 years old and didn't have quite so many miles on it. But, again, it's financial stuff. I don't have – I don't think I'd be able to go more than like $5,000 for a car, so…. I don't know. I would like another Honda or a Toyota, cars that are reliable and get good gas mileage, for the most part.

I: Yeah. Sure. And I'm wondering in an ideal world with no constraints, even financial constraints, how would you like to get around?

L: With no financial constraints –

I: Or any other, whether or whatever, just your ideal mode of transportation.

L: I think biking, I love to bike.

I: That's great. So tell me a little bit about what – why you would choose biking?

L: I think because it gets me – because then I get a lot more exercise and I'm not really paying attention that I'm actually exercising so it's a way – it's an easy way to stay in shape and when the weather is nice, I love being outside so it's just a great way, another excuse to be outside for longer and enjoy the sunshine.

I: That's great. Good reasons. Have you made any other big decisions that relate to transportation like it could be where you live in town or, you know, how you think about vacation travel or anything else that is related to transportation? It's fine if there's not but just to make sure I'm not missing anything.

L: I mean, not really. We kind of made our spring break plans based on – my boyfriend has a Jeep that has like 250,000 miles on it and he doesn't trust his car – or his Jeep, to go very far and I don't trust my car to go very far, so we're staying close to Missoula. But other than that, not really, as far as transportation.

I: Okay. So in terms of home energy, I'm wondering first of all do you live in a house or an apartment.

L: In a house.

I: And are you renting it or buying it?

L: Renting.

I: Okay. Great. And how is energy, like electricity and hot water and stuff like that, how is that included in your rent? Do you pay for that separate or is it all like a combined rent?

L: No, it's separate.

I: So you pay your own utilities?

L: Yep.

I: Okay. So I'm wondering what appealed to you about this particular house where you live.

L: It's – mostly because it was my mom's house so I just rent it from her. Quite honestly, I'd love to move out, I'm sick of living with that many people but it's easy for now.

I: Yeah. Sure. And do you live far from campus or pretty close?

L: Much farther than I'd like to live from campus. So, yeah, I mean, in terms of Missoula, it's far from campus.

I: So tell me a little bit about kind of energy use in your house, how do you handle that, like, you know, just kind of what is top of mind or not top of mind about – is energy top of mind or not top of mind when you're thinking about your house or just kind of how you approach electricity, hot water and that kind of stuff?

L: I mean, I try to keep it top of mind. I don't think our house is very efficient, like we're looking at our hot water heater and we can't turn it up any more and we only get like 7 minutes of hot water. As far as that, I mean, there's some things that we don't really, as renters, we don't really have control over or can't afford to fix or whatever, so – but I mean as far as like heating, the furnace is set to a certain heat and I know that – I mean, I have a lot of like house managing responsibilities so I tend to just leave notes and say don't touch the heater. Or a lot of times our door doesn't get closed. There's a lot of – I feel like I have a lot of stress saying this is just kind of like money going out the door and I don't like it. I mean, I like to think of myself as environmentally friendly too but at this point I'm just looking at it as money and I don't like when our energy bill comes and it's way higher than I think it should be.

I: Sure. How did you end up in that role as kind of the –

L: Just because it's my mom's house and I'm – when something is going wrong, I'm the one that hears about it first versus other roommates hearing about it. I just kind of took on that role because I don't like being complained to.

I: Sure. So it sounds like – does your mom live there too or –

L: No.

I: She owns the house and –

L: Right.

I: -- there are other college students or whoever renting it?

L: Right.

I: Gotcha. So I'm wondering kind of how you got started in your approach to energy – you said – you had mentioned it was important to you to save money and not be wasting money. Is that how you grew up or did that kind of come to you later in life?

L: I think the saving money I definitely grew up with that. I grew up in a really frugal family. So I mean it's something that I – in some areas of my life I'd like to let go of a little bit but as far as conserving energy, I don't see a problem with turning the heat down a little lower than maybe other people do, I guess. I try not to turn it down too far because that's just uncomfortable. I've also gotten to the point where, you know, I rented a house and we kept – it wouldn't go above 68 ever and now I'm to the point where, you know, if there's a day that we have to turn the heat up, I'd rather be comfortable than

not comfortable. So, I don't know, and just being I think growing more into being environmentally friendly and – I think with the prices the way they are with gas prices and energy prices, it's – I mean, it's hard to distinguish between being environmentally friendly and just wanting to save money, honestly.

I: Yeah, that's a really good point. Can you say a little more on that? That's an interesting point.

L: Well, I just think so many families and myself, too, you know, there are so many – a lot of the energy prices are rising and so if you're not thinking about the energy that you're using, you're just spending more money and you're not – it seems like an easy – there's an easy fix to just turn the heat down a little bit or do this and it also helps the environment but it's hopefully saving you money also.

N1.16 Jane

I: I'm wondering how you mainly get around town.
J: I don't have a car so I ride my bike or I'll catch a ride typically with somebody.
I: I'm wondering how did you end up with the decision not to have a car, to just have a bike.
J: Well, actually.
I: Did you say you ride a bike, that's what you said?
J: I do ride a bike. Well I did have a car when I first moved back and I bought a car. I lent it to somebody and they crashed it.
I: Oh no.
J: So, um, I decided just after that, mostly for financial reasons I guess, that it's just more economical right now cause I live close to campus and I work on campus, that I really don't need a car. So, yeah, I just haven't chosen to buy another car.
I: Cool. And in terms of biking, do you primarily use that for getting back and forth to campus or do you bike all over.
J: I walk mostly to campus. I live two blocks. If I'm going to bike somewhere it's to go to the grocery store or, yeah, mostly that, take it to the grocery store to get things that I need.
I: Okay. Terrific. So I'm wondering, in an ideal world, how you would like to get around. You know, if you didn't have any constraints of any sort what would be your ideal situation?
J: Is this as far as like day to day activities?
I: Yeah, it could be day to day…
J: Traveling far?
I: Yeah, primarily day to day but, you know how you see the ideal transportation situation.
J: Well, I think it would be nice to have like public transportation systems available, kind of like how the cities have subways. Like everything's really in walking distance kind of. So, I don't know, me, myself, I would probably choose to live in an area where things were pretty close by that I could, that were easily accessible. Versus like living in the suburbs or something. I guess commuting via public transportation or bicycling, something like that.
I: Great. Do you think that you will be interested in getting a car in the future?
J: I will at some point. I will probably. But I'm going to finish school for now because my living situation, everything permits not really needing a car. But I'm sure at some point in my future I'll get a car.
I: What do you think you would get if you were going to get a car?
J: Um, I prefer smaller cars. In the past I had like a Honda Accord, any Honda Civic. So if I were to get another vehicle it would probably be some type of compact or economy sized car.
I: What appeals to you about that?
J: Good gas mileage, more affordable prices to purchase one of those kind of cars. And just the fact that I guess I don't need anything; you know I don't have a family. I'm just like a single person so I don't need anything other than that. I don't pack things around, you know, kayaks and different things like that.
I: Okay, that makes sense. I'm wondering if you've made any other big decisions in your life that relate to transportation like where you chose to live or travel plans, or whatever it might be.

J: Um
I: That's fine if it's not, I just like to ask.
J: Decisions that relate to transportation. Um, I guess I've never really had a decision based on transportation per say.
I: That's fine, I just like some open ended questions because otherwise I might not find out something that's critical. So, switching over to home energy use--Do you live in a house or an apartment?
J: Apartment.
I: Okay, great. And are you renting it.
J: Mmm (confirmation)
I: And how does energy work in your house? Are utilities included in your rent?
J: There it's really funky. It's a really old building like from the 1800's.
I: Oh, wow.
J: It's divided up amongst the number people that live in the building; the number of apartments is kind of how the utilities work.
I: So do you control your own heat and stuff like that?
J: We have steam heating, so you, yeah, there's, they turn on a boiler in the winter and then we have valves to control the amount of heat that comes in or out. But it's like running off a main boiler system. They control, they'll turn the boiler up when it gets really cold and then they'll come turn it back. In summer it goes off.
I: And for electricity, similar? Or how does that get worked out?
J: The electricity, we do divide, we pay, I guess a portion, the electricity gets divided but then we pay a portion to the electric company.
I: So you pay direct.
J: Or is the gas maybe we pay. Yeah.
I: So you do end up with a bill directly to Northwestern or whoever.
J: Um, we do, yeah.
I: And so tell me a little bit about energy use in your house, how you approach it, or you know, is it something you even think about, or…?
J: Um, well, as far as things like shutting the lights off, you know I try to be conservative with energy. I guess to the extent of making sure that things are shut off. Um, I try to like unplug things from the wall that are not like major appliances you know, but like a curling iron or just things like that that don't need to be plugged in really. And (pause) I guess I don't really consume a lot within my house just cause it's just me and I don't do a ton of cooking or anything like that. I try to be conservative but not to the extent, like I haven't put those light bulbs, I know there's like those more energy efficient light bulbs. I've thought about doing that but I haven't actually done it.
I: That's great. So I'm wondering, you do a lot of things like not having a car and being conservative about energy that are like energy conservation behaviors. Did you grow up in a house where your family was kind of conscious of energy use and transportation use, or not so much?
J: Not so much.
I: How does your family….
J: I think it's kind of like a modern thing. I think we are moving in to becoming more energy conscious. My parents weren't necessarily; they didn't really enforce that kind of behavior in the house. But I'd say that more now that they do, although not as much as I do. I feel sometimes when I go to their houses and stuff that I'm like shutting off lights or kind of doing (laughter), I think it's more of a habit that I created. I'm not sure where from, maybe going to college and learning about conserving energy I guess.
I: Sure, that was actually going to be my next question, how you got started on being aware of that.
J: Yeah, mostly, yeah, just self education, watching TV programs about kind of the crises we are moving in to, with resources and such. So trying to do my little part.

N1.17 Leo

I: If that's okay with you. How do you get around town primarily?

L: Car and motorcycle.

I: And what kind of car do you have?

L: I have a '94 Buick Century, a 1995 Ford Windstar, '89 Chevy pickup, and a '93 Honda Shadow motorcycle. So we've got 4 vehicles.

I: And do you use them all equally or do you have one that you primarily go to?

L: I use the Buick most of the time. That's my car. That's my daily driver, or whatever. During the week when I'm going to school, the car sits most of the time. I ride either my bicycle or my motorcycle over to campus. I just live a few blocks away. Or walk – it's all weather dependent.

I: Yeah, sure. And then do you work in town or –

L: I work in Stevensville.

I: So you have to commute back and forth sometimes.

L: Yeah. 30 miles each way.

I: And do you work down there every day or –

L: No. I just work down there on the weekends, Friday and Saturday – Friday night and Saturday.

I: Okay. Terrific. And what appealed to you about those different vehicles that you have?

L: Price.

I: What made you want you to buy them? Price?

L: Price, yeah, definitely. Each one was price. It's all we could afford that would hold 5 people.

I: Yeah, good. To hold your whole family. Terrific. And did gas mileage play a role at all in the decision on any of them?

L: I suppose gas mileage played – made a difference when you purchased the van.

I: Is that the Windstar?

L: The Windstar. We looked at, you know, 5 to 7 passenger vehicles, and so you start looking at SUVs versus minivans, and the minivan kind of had – I mean, we looked equally at SUV and then minivan in the same price range, and gas mileage probably won out as the determining factor going with the van. It's hard to look cool driving a minivan.

I: I'm about to have a family, I know.

L: So the gas mileage – and it turns out that it's really not that big of a difference. I mean, if you look at a SUV has – gets 16 miles to the gallon, that Windstar only gets 18, 20. Maybe will get 20 if you take it on a long drive.

I: A little bit better.

L: It's a little bit better. It makes a big difference now when gas prices are going crazy, you know.

I: Yeah. Absolutely. And did financial considerations impact your decision at all? You mentioned the price, the purchase price of the vehicle.

L: Yeah. We – we decided that it would be better to purchase vehicle for cash than have payments, so, you know, for a couple of different reasons, for the amount of insurance that you have to cover on a new vehicle, the payments versus not, and not having a payment and going to school where you get financial aid, you get a chunk of money and you have to make it last, which you're familiar with.

I: Yeah.

L: So each time we bought the vehicles it's been what we could afford at that minute.

I: Sure. That makes a lot of sense. If you were going to buy a new car, not necessarily meaning brand-new but just another car, what do you think you would want to get? If you had the option to do it over again or you had to get another one.

L: Personally, a red two seater –(laughs)

I: Something fun.

L: Right now it seems like all my needs are met. We're really not looking to get anything else. The fuel economy versus price, if you buy a 10-year-old vehicle and you can afford to pay for it, you can afford – then you can afford to put gas in it versus buying a brand-new vehicle, it costs twenty, thirty thousand dollars, you're making payments on it, the gas mileage savings doesn't equate to the extra money that you're paying for a new car, unless you did a lot of driving. I mean I don't really – I probably drive 120, 130 miles a week. So, you know, if I was commuting like from Stevensville back and forth, I was putting on 500 miles a week, like I had in the past when I was working full time up there in Stevensville, back and forth, and I would put 500 miles on a week, you know, and gas mileage starts to become more of an important issue.

I: Yeah. That's a very good point. So I'm wondering in an ideal world with no constraints – now maybe we're getting back to your red two seater – how would you like to get around if you had no constraints whatsoever, what would be your ideal way to –

L: No money restraints, no –

I: No money, no constraints of any sort. No toting things around.

L: Yeah. If I could drive any vehicle, I would like to drive my pickup truck. It's got 4-wheel drive and 8 miles to the gallon (laughs). But I just use it when I need to because of the gas mileage. Yeah, if I could just drive anything, I really don't care. I'm more of a Point A to Point B kind of person. I really don't care how I get there. Maybe a segway. (laughs) Those might be fun.

I: And you mentioned the pickup truck that that's your favorite of the vehicles, what makes that your favorite?

L: Just the utility of it. You can haul things, you can tow things, you can take off road, you can – there's no place it won't go. Plenty of power, will go as fast as anything else. I probably like my pickup the best out of those vehicles. Only 1 other person can go with me.

I: There you go. That's what I was looking for. I knew there was something. That's funny. Have you made any other big decisions that relate to transportation? It could be anything, it could be decisions about vacation travel or decisions about where you live or anything else that I haven't asked about.

L: Well, I mean, I've been doing some airline travel, shopping, I'm going to China in May, so that's a big trip. I've been doing the airline travel shopping thing, finally got that – I think I got it taken care of today. So that's a big trip. In the summertime, the kids' grandparents live in California, so we've just been talking about that. Are we going to drive down, leave them there for a month and then have them fly back? Or are we going to fly them down and then drive down and pick them up? Or are we going to fly them down and fly them back? So that's all – the decisions – I think it's pretty much made. I think we're going to drive down and fly them back. So that's a big trip coming up.

I: And what kind of factored into the different choices and why –

L: It's a $146 one way for each of the boys, the daughter is not – the youngest isn't going to fly, she's not going to stay down there for a month, she'll come back with – it would probably cost us $300 each way to drive, so you've got 5 people, $300, can go; 2 people, $300 can go. So that's kind of – airline's actually cheaper if just 2 people go, you know. So it's a $600 roundtrip to drive. So those are kind of the things that we look at for what's the cost benefit.

I: That's interesting. It seems like you've done a – did a lot of research.

L: Just as a matter of fact me and my wife talked about it last night, so we kind of made the decision last night. Things like commuting, you know, should I – come summer, should I work more in Stevensville? Or I've got an opportunity to do something here in Missoula where that will save me – if I go down and work for a hundred dollars a day in Stevensville and it costs me $10 each way to drive, really only making $90 and then I've got the extra time. If I could work here in Missoula for $80 a day, is that extra time worth the $10. So that's kind of that kind of decision-making when it comes to doing that.

I: That's interesting. You have a very carefully planned approach.

L: Well, it's not carefully planned. It's what's the opportunity, you know, but you weight the cost of the opportunity. I have an older car, you're driving it a bunch, you're going to have more repairs.

I: Yeah. That's very well thought through. You're not flying by the seat of your pants. In terms of home energy use, just to switch over to there, do you guys live in a house or an apartment?

L: Apartment.

I: And so are you renting it or –

L: Yes.

I: And what appealed to you about the place where you live?

L: Well, it's student housing.

I: Okay.

L: So the price of the house – or the apartment is all inclusive, utilities are included, that was appealing. The price when we moved in was appealing but been there for 5 years so the rent has gone way up. It's the only landlord/tenant agreement that I've ever been in that rent goes up every year.

I: You know that in advance that? –

L: Yeah, it's going to go up every year. It's just kind of rubber stamped by the board of regents. It's one of those hidden fees of going to the school, your rent is going to go up. It's gone up $200 since we started, a month, in 5 years. I don't know – do you rent a house?

I: We don't. And we don't have University housing.

L: You're in apartment or –

I: Well, we're buying a house. We own a very small portion of a house. You know how that goes.

L: So you've got 30 years of a set amount. Any apartment you ever rented, you probably paid the same amount of rent when you started as you did when you left.

I: Right.

L: So it's kind of an odd –

I: Yeah, I'm just thinking $200 over 5 years, that's a pretty high percentage.

L: That's a pretty high increase, yes. So it's kind of a pet peeve that I have, but it is nice that it is all inclusive. I mean, it's boiler heat, so it's plenty warm enough. There's a boiler for the hot water so you have limitless hot water, which is really important when you have 5 people living in an apartment. So I don't think they're very efficient. I think the building was built in the '60s, '70s. I don't think it's very efficient. It probably is pretty expensive to heat that huge building. There's no air-conditioning. So summertime it's hot. As far as like energy usage, we're fairly conscious about shutting lights off when we leave, leaving the heat down when we leave. I don't think we're energy hogs. I don't think – it's not like I'm – what's the word? – green by any means. I think there's probably plenty of electricity in Montana and we have hydroelectric dams and coal-fired generators, you know, so I don't think that – the rates are probably comparable with anywhere else. I don't like turn down the lights because I try to save the planet, I don't think that way at all. I just think that if you're not in a room, you shouldn't have a light on there. Why would you – on the other hand, 3 kids, TVs are on all the time whether they're in a room or not it seems like. So it's kind of – yeah. So it's like – I worked at a factory and we had an energy audit and one of the things that was – when I came in in the morning, I was a building supervisor, and I would come in and the first thing you'd do is turn on all the lights, go in and turn on all the machines, and when we got this energy audit, you get charged on your demand, so you've got really high demand when you first come in and so you get charged a higher rate, so we would make a conscious effort to come in, turn on half the lights, turn on a couple of machines. When people started coming in, punching in, then they would turn on their individual machines, so trying to lower that peak demand because – in a building, the size that we were in, it was a huge building, it had maybe 100 to 150 people working there, the utility bills were in the $25,000 a month range for that building. So just by doing that, we could lower

it by $3,000 a month, which is $40,000 a year, $50,000 a year, you could save the company a lot of money just by doing that. So getting back to the apartment, same kind of thing, if you're turning your lights on and off because you're walking in and out of the rooms, you're increasing your demand too, so leaving a light on is actually kind of the same benefit as turning it on and off, depending on demand.

I: Now, do you see any benefit, like when you – I don't know how your utility works – if you use less utilities or less heat, you don't get any – you don't see the savings?

L: I have no idea. There's no savings there.

I: So you just pay the same rate regardless.

L: Just pay rent. That's all I pay is rent. My water, my garbage, my electricity, my heat, my cable is all included in that one payment a month.

I: Okay. So even if you – cut 5 minutes off my shower or something, you wouldn't see –

L: I wouldn't see the savings.

I: Okay. Interesting. I'm wondering if you have any other kind of thoughts or behaviors or whatever around energy use that you think are important to discuss. You mentioned that you do try to turn off the lights. Just to make sure I'm not missing something, is there anything else that's kind of an important energy issue for you? Something you do or actively don't do or – it's fine if there's not.

L: I don't recycle aluminum, I think that's a waste. I think the cost of recycling aluminum doesn't make the value of what it costs to reconvert the aluminum. It's not like – if there's a – if I have an aluminum can in my hand and there's a place that says recycling, I'll throw it in there but I'm not going to go out of my way to do that. Yeah. I like the increase use of solar cells and I see these wind farms, they're just popping up everywhere, I think there's some – are they just putting wind farms to generate jobs, I really don't know because I heard – I've talked to people that said that the benefit from using this wind energy is hard to capture because of the distance of the electricity as to travel, it's – what's the word? – it's time sensitive. You can't store it.

I: Right. When it's windy you have it.

L: I see that there's a lot of solar cell people. I know several people who are completely off the grid, and I think that's kind of cool. One person does it because they're environmentally minded and the other person does it just because that's where they live. They've decided to live there and they're off the grid and the cost to get electricity to their house didn't – doesn't equate to what a customer on a generator and solar panels because they live way out. I think that's kind of cool. I mean, if I – if you lived in a world where anything was possible, it might be nice to be completely off the grid. I sure do like all the benefits of having cable TV and internet and all that kind of stuff.

I: So that's interesting, though, if in an ideal world, how would you like to do – to handle energy in your home?

L: It would be nice to be self-sufficient. That would be kind of nice. You're not at the whim of the markets and stuff like that. It would be nice to – growing up where my parents live now, where we had a gravity fed irrigation system, and I always thought that the water coming off the hill, comes off – it's recycled – to put a generator on that, to put a turbine in there and be able to capture some of that gravity coming down the hill, because – I thought that would be kind of cool.

I: Yeah, definitely. That's a great idea. And so that's interesting, the self-sufficiency idea, is that – is that kind of a primary motivator for you to – if you were to be off the grid, just to be kind of remove yourself from the marketplace or – just talk me through a little bit your thought process.

L: I will think about that. I like to – I'm a Montanan, I'm a rugged individualist. I live the – I mean, where I grew up, where my parents live, we moved onto that property and there was absolutely nothing there. It was a hayfield, and we built our – we dug our own well, we heated our own water for a long time and then we had to – we built a house there. We're just kind of like settlers there. I look back at it kind of romantically, living it sucked. But now it's kind of neat that I had that experience of – we didn't have electricity for maybe like two years, when I was like in 4th grade, 4th and 5th grade. We hauled our own water from the neighbor and we – heated it up on the stove to take a bath and stuff. You kind of appreciate being able to flip on a light switch.

I: Sure.

L: I wish my kids had the same appreciation. It's kind of hard to teach that.

I: Yeah.

L: I kind of like – like I say, I kind of romanticize that settler life. So maybe I think if I was wealthy enough to do that kind of thing to build a house off of the grid, I think that's kind of cool. Kind of in a romantic sense but not because of, you know, money or saving the environment or anything like that. I kind of have mixed views on what green motives are. I don't see, you know, don't see a lot of pollution here in Montana, not like you might in China, where it's a big, hot button issue right now with all the coal and the low grade high sulfur coal that they're burning there. And all the greenhouse gas emissions, you know, you can't hardly say that humans haven't affected their environment but, on the other hand, looking on a geologic time scale, we've been global warming for at least 10,000, 15,000 years. We know that because of the fossils we find around here were arctic fossils, you know, mammoths and that kind of stuff, Glacier Lake Missoula and all that stuff, we're definitely in a warming cycle, have been for lots of years. To say whether or not it's accelerated because of human, probably is, there's probably no doubt that it is. Should we curb that? We can't say, Johnny, you'd better curb this, look how we evolved over the last hundred years on an industrial revolution and all the pollutants that we pumped out and we said, well, look what we've done recently, you know, who are we to say to another country and a sovereign country like that that they shouldn't have the same kind of growth, same kind of – maybe with enough growth, they'll see that they have to fix that. I don't know. I'm not directly affected by it so I'm kind of washy on the whole global warming thing.

N1.18 Lynn

I: So, if it is okay with you I will start with transportation-related stuff and then do home energy if that is okay. So I am wondering how do you mainly get around town you and your family?
Lynn: We drive.
I: And tell me a little bit about your car. What kind of cars?
Lynn: I drive a Honda CRV. So we live up on the hill and need all wheel drive. My husband has a Chevy ¾-ton pickup truck that he drives around.
I: And what appealed to you about your Honda?
Lynn: I like the all-wheel drive and just kind of like the size of the car and economy.
I: And how about the truck? What appeals to you guys in particular?
Lynn: My husband just loves chevy trucks. and we also, you know, we camp in the summer. We pull our camper with the truck.
I: Did the gas mileage play any role in the decision on either of those cars?

Lynn: Yes. Actually the truck doesn't get great gas mileage but we actually did trade it, we traded in an old truck, I don't remember what it was, but this one did get better not a tone better, but it is still better. And my car, I looked a lot, at all-wheel drive and the gas mileage just to try to find one that was decent. It gets decent gas mileage. It isn't great but it does okay for all-wheel drive.
I: And how about financial considerations? Was that something you could?
Lynn: Yeah. We had to stay within a budget for sure. So at the time I could not afford hybrid even though I would have loved to have one but they are just a little bit too much for our budget.
I: So tell me, the hybrid what appeals to you if, you know, you had not limitations?
Lynn: I would just like to have better gas mileage. My next car will probably be one of the top priorities for me.
I: To have the gas mileage? Great. That is actually going to be my next question. If you were going to buy a new car, what would you get? What would be the most appealing thing to you?
Lynn: I would love to have a Toyota Highlander hybrid, something that we can pull because we may have a boat and something that has four-wheel drive or all-wheel drive and something big enough for my family to travel in. We do a lot of traveling.
I: Absolutely. So in an ideal world, if you had no limitations, how would you get around?
Lynn: How would I get around? Well right now driving is just the easiest. I actually would like to bike more, to be honest. But where I live it is very difficult to bike and when you have kids and you are not sure if you are going to be called during the day and have to go take care of things, it is harder to bike. So, again, in the ideal world, if I lived down in the university area where I could bike to work I would love that, but, I mean I feel probably pretty ideal with what I'm doing right now. I am not interested in riding buses around.
I: Yeah, sure, especially if you are picking up kids.
Lynn: That makes it hard. My daughter rides the bus a lot so we try to use it as much as we can.
I: Is she driving age yet?
Lynn: Not yet. Next year.
I: So it's probably convenient for her. So me through the gas mileage thing a little bit, what appeals to you about higher gas mileage or what is kind of the trigger, the motivation?
Lynn: Well, for me, a lot of it is for financial reasons just to help pay for getting around because it gets expensive. Also, to conserve I guess, I mean as much as we can but it is kind of hard. Actually I feel like in Missoula it's pretty tough because it is spread out and so we end up doing a lot of driving.
I: Have you made any other big decisions that relate to transportation other than specifically cars – like where you chose to live, or travel-related decisions?
Lynn: No, I don't think so actually.
I: So you mentioned that you live in the South Hills?
Lynn: In Fairviews.
I: And do you live in a house or in an apartment?
Lynn: A house.
I: And are you guys buying it or renting?
Lynn: We bought it.
I: I just ask because sometimes if you are renting you don't pay the utilities, so there are a lot of questions I don't need to ask you. So what appealed to you about this house?
Lynn: Well, at the time we were looking for a bigger house that we could buy and fix up and we also liked the school district it was in. I wasn't crazy that it was on the hill but we also need space. Like I like to have a little space around my house and somewhere to park our toys, you know stuff like that. And it was the nice neighborhood.
I: We live on the north side and we have a camper, too. So do you park the car, or the camper, or? We don't even have a driveway.
Lynn: We actually just sold our camper. I'm kind of bummed about that. But we didn't use it that much and it was getting expensive to travel around with it to even go places.
I: Just because of the gas prices or?

Lynn: And our family is getting older so it wasn't quite as exciting. We may try something else like maybe boating or just try to do something a little different. Mix it up a bit.
I: Yeah, I feel like we don't use it either as much as we should. It is like fun to have but… So tell me a little bit about energy use in your house. Like how do you make decisions about where you are going to set your thermostat or your energy billing system.
Lynn: So we have gas-forced air and we bought a thermostat that at certain times of the day changes the temperature in the house so we keep our house at about 70 degrees during the day when it is cold or sorry when we're at home in the evening and the 65˚ during the day and then at night. And we do have some electric heat in the basement for a couple little places that get cold but we don't use those hardly at all and we make sure we turn those off when we leave. We do have a hot tub and I am just trying to think of what else is electric and we have a gas insert upstairs that we use occasionally just for comfort.
I: So would you say energy decisions top of mind your mind, you talk about them a lot or not so much.
Lynn: Actually, with our kids we do. We are very good about teaching them to keep the doors closed when it is cold outside but we are not overheating the house. We don't use air conditioning during the summer we just go downstairs where it is cooler. And like I said my daughter she has a little electric heater down there and we make sure that she has turned it down at night and that she turns it off during the day. Not only to save money but, you know, there is just no reason and also turn lights off is another thing. We are actually fairly good doing all that, trying not to have every light in the house on but, again, with kids that can be a challenge.
I: Yeah, totally. So would you say how you approach energy and transportation are similar to how you grew up or different, you know, how would you say you kind of came to where you are on it?
Lynn: I would say that, well, I didn't think about energy at all when I was a kid. You know, it just wasn't a front burner issue like it is now so it wasn't anything that our family talked about. But definitely now, you know, it is a lot more on the forefront about making sure that we are doing our best to conserve as much as we can but just like everyone, I'm sure that we could do better. So, I would say just by learning and understanding the issues and as we got older, you know, and implementing what we thought was important, you know, budgeting, and all those things are factors.
I: So that is interesting because it is kind of more important more recently. What would you say has changed or has anything changed or it just kind of came to that?
Lynn: Well, like when I was in school, in high school, I don't remember people worrying so much about energy or recycling or any of those things. It just wasn't, I think, it just didn't seem to be a global issue like it is now. I feel like the word is getting out the importance is being spread to other people.
I: Actually, it is more cultural, out in the culture. How would you say you interact with friends or family on energy or transportation issues? Does that even come up as a topic of conversation or is that like not something we talk about which is totally fine?
Lynn: You know, sometimes it does come up like my neighbor and I have talked about sharing a recycling program that you pay for and they come pick it up. You know, maybe gas mileage a little bit. But, other than that, just a little bit about recycling, probably not a whole lot.

N1.19 Grant
I: So I am wondering how you get yourself around town.
G: I have a car here but I am living at the Lewis & Clark Villages right now and they have like the transit that are literally like right below my building. So I have been doing that to get back and forth to school in the wintertime. Then in the springtime I will probably go back to riding my bike which is what I did in the fall for the first couple of months of school.
I: So tell me a little bit about your decision to do the bus or the bike to get to school instead of the car.
G: It's free.
I: And parking is not free. That's a good reason. And what kind of a car do you have?
G: I have a Land Rover Discovery 2002. It's not great on gas mileage, though.

I: Hey, that's all right as long as it gets you where you want to go. So what appealed to you about that car when you bought it?
G: Originally, I had a two-wheel drive Chevy truck and I got that before I was planning on coming over here. And I just wanted to have something that was four-wheel drive to go over the passes and so I ended up looking around. I got a really good deal on my car so.
I: That's great. It makes a lot of sense. Did gas mileage play a role at all in your decision?
G: It did a little bit. [long pause, thinking] I guess that just wasn't a main concern when I was purchasing it at the time. Gas was slowly increasing and then that summer it shot up and then it dropped back down so it wasn't really concerning until it is starting to rise now again.
I: What about financial considerations?
G: For like financing for the car in the first place?
I: Yeah, or, you know, the purchase price, or the kind of the operating costs or any of that kind of stuff, did you end up thinking about that when you bought it?
G: I shopped around for a car, looked at a few others of the same car, and decided to go with that one because it came online the night after I had gone and looked at another one, and it was half off blue book because the guy needed to get rid of it right away so I just jumped on it and got it.
I: Wow. That is a great deal. So if you were going to buy a new car, what do you think you would like to get?
G: I wouldn't buy a new car. Instead I would buy a used car.
I: What do you think you would get in that case? That's a good point. I should say if you were going to buy any kind of car.
G: I would probably go back to a truck just because with work once I am out of school it would be more useful.
I: And tell me a little bit about that. Do you expect to do work that requires hauling?
G: In the summertimes I work for my dad's commercial roofing company and so, yeah, I would need to haul stuff in there. It is just a lot more functional versus the Land Rover because you can't put a couple pounds of tar in the back if you need to.
I: Right. Totally. So in an ideal world, if you had no constraints, financial constraints or any kind of constraints, how would you like to get around?
G: How would I like to get around? I suppose an airplane would be nice because it is fast and if money was not an object might as well get someplace faster.
I: Sure. That makes a lot of sense. I am wondering if you have made any other decisions that relate to transportation – where you live, travel or vacation related decisions – anything else that comes to mind about transportation.
G: The main reason why I have a car is to drive back and forth to Portland which is about 550 miles each way.
I: That's pretty far.
G: And it costs me, well, with the gas prices going up I just actually looked last night because I am getting ready to head back for Spring Break and it is probably going to cost me a little under $300 to go both ways which means it is cheaper than a plane ticket and I'll have other people with me, but it's still moderately expensive.
I: Yeah, sure. Gas prices are definitely kind of spiky. So I am going to switch to energy questions if that is okay. So you mentioned you live in the Lewis & Clark. Is that an apartment?
G: Yeah.
I: And so you rent that or how does that work?
G: I rent it, pay monthly, and I have two other roommates. It is a three-bedroom apartment, family room and kitchen and bathroom.
I: And how are utilities done? They included in your blanket rent? [he indicates yes] Okay. What appealed to you about living in that place?
G: It is new. It is furnished. Utilities were included in that if I didn't say and I mean that is a huge deal because that is $40-50 a month. And I thought it would be kind of fun just to move in with a couple

of guys that I didn't know because for the past couple of years I have been living just like a block off campus, my freshman and sophomore years. And that was kind of like more of a group where there is a guys' floor and a girls' floor and then like a living area floor. So I just wanted to try something else out I guess.
I: And so tell me a little bit about how you approach energy use in your house. Are there any things that come to mind that are kind of top of mind issues?
G: Like utilities?
I: Yeah, like electricity, heat, water, or hot water I guess in particular. Just kind of walk me through how you think about that.
G: Well, let's see…[long pause]
I: Or if it is not very top of mind that is fine, too.
G: Let's see [pause] I guess it would really have a lot more of an effect and I would think about it a lot more if it was something that I was paying separately outside of that. But just because it is bundled in there, I just don't think about it that much.
I: Yeah, that is a good point.
G: I mean I try to turn off the lights and just not uselessly waste energy I guess. But at the same time it is just not as much of a priority because I don't have to pay for it individually.
I: How about at home? How do your parents and your family kind of approach this whole issue of energy use?
G: Well, in my house, we have like, in the main area of the house we have like a big open room and the heat tends to go to the ceiling there so we have individual like thermostats in the rooms, and I guess and keep it relatively low. My brother and I aren't there now and we lived upstairs so I think basically they have turned the upstairs off when we moved out of there and keep it mid 60s. So not a whole lot of heating up there. In the summer time it probably goes up because we are both home and air conditioning. But for the most part, my parents are pretty strict on don't leave the lights on any random reasons and keep the doors to the outside of the house closed so you are not just heating the outside or cooling the outside.
I: Sure. So do you feel like you have a pretty similar approach to energy use and/or transportation to how you grew up or do you feel like you are really different?
G: Definitely. And I think then in the next few years when I am in my own house and I had to pay for the utilities and stuff, it will be a lot more relevant to me. I mean I have definitely thought about it and I think I will be a little bit more conservative when it is something that I will be paying for myself.
I: I am wondering how you interact with your friends or family on energy issues -- energy or transportation – is it something that ever comes up in conversation where you talk about those things, either personally how you get around or how you use energy or the broader issues? Or is it just kind of a nonissue or not an issue that comes up much?
G: It doesn't really come up that much. When I lived in the community house it was kind of a big deal because I guess energy was tied into the price on that, too. So it still wasn't like a priority really but, at the same time, we would have house meetings and stuff and talk about turning lights off when you go out of a room, turn the fan off when you leave the bathroom. Basically it was kind of a large house so the main thing was don't leave the room with the lights on, and if you are the last one to go to bed down stairs, turn off the lights.
I: So it came up more when you were living with more people.
G: It hasn't come up as much now in this situation just because I am not paying for it.

N1.20 Tony
I: So, I am wondering how in general you get around? How do you transport you and your family?

T: We drive (laughs).

I: Sure. Yup. Me, too. So tell me a little bit about your car? What kind of car have you got?

T: My work vehicle (I am self-employed) is a Suburban.

I: What do you use it for?

T: For work. I am a contractor.

I: Like a building contractor?

T: Correct.

I: Great. So what appealed to you about that car when you bought it?

T: I just think it is the safest car on the road. For me now, it has tons of room so I can have all my tools and everything is always locked up and out of the weather. I have owned four Suburbans and I bought the first one after I was coming back from a hunting trip on icy roads and I had a short wheelbase four-wheel drive at the time and I have never been so scared in my life. I went out a couple of days later and bought a Suburban and they are just a great vehicle. They ride nice. They are safe on bad roads. Other than the fact that they don't get fantastic gas mileage, that is the killer.

I: But, yeah, good for around here in the kind of conditions we have. So, I am actually wondering… my next question was going to be did you consider gas mileage at all when you bought this car?

T: Yeah, and we always try to have a vehicle that gets good gas mileage to take on (inaudible) and stuff. But, the main reason for that vehicle, I guess, was not gas mileage; it was function.

I: So do you have another vehicle in the family?

T: We do. We have lots.

I: And what are the other vehicles?

T: Well, I have another Suburban which I have one for work and one that is kind of the family vehicle. [Conversation with son.] Then, beings as I am an avid motorcyclist, my wife needed a convertible so we have a Cutlass convertible and that is her car. And then her main car is a Cadillac and then my son has a Jimmy. My oldest daughter has a Buick Century. My youngest daughter has a Toyota Camry and we have a Ford conversion van. And then I don't even want to get into our list of project cars because that is what my son and I do. We buy and sell a few cars and fix them up and so we have a fleet.

I: It sounds great. It sounds like you have a whole dealership down there.

T: Yeah, exactly.

I: So, just to focus on your primary vehicle, the Suburban that you mentioned as your primary vehicle, we talked about gas mileage, did financial considerations impact your decision at all?

T: Financial? Of course.

I: And, talk me through that a little bit. How did you think through that when you were buying the car?

T: Well, I don't buy anything new. I always buy them depreciated out so I let someone else buy them and depreciate them and then I buy them. Now, beings as I am a contractor, I always have a couple of cars that I am working on in case work is slow, then I will buy a car that has a mechanical problem, fix it and resell it or if it has a little bit of body damage, then I will fix that and resell it. So, half the cars are cars that I have bought doing that that we still drive, that we decided to keep. As a matter of fact, the cars that we are planning to keep the Cutlass, the Cadillac, the one Suburban, the Ford were all cars that I bought needing something and then just decided to keep. I am very frugal so I always buy them very cheap and fix what is wrong with them and either keep them or resell.

I: Great. That makes a lot of sense. So, I am wondering, in an ideal world, how would you like to get around? What would be your ideal to get around?

T: Well, like I said, I am an avid motorcyclist, so in the ideal world every time I went somewhere, I would be on my bike. But, obviously, that doesn't work in my real world. I guess the Suburban fits me to a T and it is older but it does everything I want it to and it works well. So I guess I don't have any complaints with the way I get around now. I am sorry. I guess, in the ideal world, you are right, the Suburban would get 40 miles to the gallon.

I: Yeah, I am sure…

T: Or else it would be electric, but well of course, with electric your burning coal or something else because of power, so that all sounds good, it is a big win. But, I guess, if the Suburban could get the mileage of a smaller vehicle, then that would be the ideal.

I: Yeah, that would be great. What is the primary motivation behind wanting to get better gas mileage?

T: I guess it is 50/50: financial and not wanting to waste a natural resource.

I: Yup, that makes a lot of sense. So, we are going to turn to energy in your home. Do you live in a house or in an apartment?

T: A house.

I: Are you owning or renting?

T: Own.

I: Great. I just ask that because sometimes when you are renting, you don't pay your own utilities. So that would change the questions that I would ask.

T: Sure.

I: So what appealed to you about the house where you live now?

T: It was the right size and it had a tremendous view. We have always had houses with a good view and this one certainly meets the criteria.

I: Just tell me a little bit about energy in your house. Is it something that you guys think about, or how do you decide where to set your thermostat or that kind of thing about energy use in your house?

T: We certainly are cognizant about that. My wife works out of the home and so a lot of times she is the only one home. So, rather than heat the entire house to a comfortable temperature, she has – I can't remember what she calls it – it is an individual room heater in her office and so she will keep her office nice and toasty but the rest of the house we keep at 65˚ most of the time. We don't really turn it up until we are uncomfortable. So when everyone is finally getting in at night, then we will kick it up. But, we never heat the entire house toasty warm (laughs); we just don't.

I: So, just kind of walk me through your thought process on not heating the whole house, kind of what motivates you on that decision.

T: The same things: financial and not wanting to waste energy.

I: So how did you get started would you say in terms of your two primary interests that you mentioned in terms of not wasting money and not wasting resources, is that how you grew up? How did you come to think about those things?

T: Well, I think the financial one is just the same as most people – well, not everyone – but a lot of people live on a budget so there is no sense wasting money on something where money doesn't have to be spent. So that is the financial end of it. And then the natural resources is just kind of trying to "do the right thing" and not wanting to use energy that you don't need to use.

I: Sure. Would you say that you guys as a family talk about energy or transportation or not so much? Do you talk about like "turn down the thermostat" or "don't use so much gas" or is that not so much a topic of conversation either within the family or among friends?

T: It is not really a topic of conversation. It is just kind of a lifestyle. It is how we operate our house but it nothing that we discuss.

N1.21 Ben

I: Cool. Very cool. So if it's okay with you, I'll start with transportation stuff and then do energy. I'm wondering how do you mainly get around town.

B: Mainly I get around town, if it's anywhere else besides school, I usually take my car. Other than that, when I go to and from school, I usually like to try and take the Mountain Lion bus because it comes right by my house so it's really – it's really so easy that it – it should be the first thing that comes to mind instead of driving.

I: Sure. So tell me when – going to school, what makes you take the bus versus other times take the car?

B: Just because usually when I'm not going to school, I'm going someplace that is way out of the way of buses so I just – I can just go straight there with my car and straight back usually, and because the bus, like, even when you try to take the bus somewhere, the route that goes by my house goes by my house, down to campus, down to downtown and then back again is where it goes. If you're going anywhere out like on Reserve, you have to change buses and you don't know what the schedule is unless you use the bus all the time.

I: Yeah, sure. That's a good point. And how come you take it to school instead of driving usually?

B: Convenience, really. The bus stop is literally right outside my front door. It's on the property line between us and the neighbor.

I: And it comes direct to school then?

B: Yeah.

I: That's nice.

B: Drops you right off in front of the business building.

I: Awesome. That's totally convenient. So tell me about your car, what kind of car do you have?

B: I have – I just actually got it, it's a 2011 Ford Mustang.

I: Oh, cool. Very nice. And what appealed to you about that?

B: Well, I had a Mustang before. I had a 2007, and back when I was -- back when I was in high school when I got the first one, it was because I was graduating and my dad said that I couldn't have a pickup because a pickup did not get good enough gas mileage. So we started looking around for a car and our dealer said – he's a Ford dealer in Havre – said that it would be easiest to get a hold of a V6 Ford Mustang and actually the gas mileage wouldn't be too bad on that. So ended up getting pretty good gas mileage and this new one that I got gets even better.

I: Oh, nice. So would you say gas mileage was a consideration –

B: Huge.

I: -- primary consideration in choosing those vehicles?

B: Huge consideration. Yeah. Next to looks, of course, but, yeah.

I: You got a good one with the Mustang. So tell me a little bit on the gas mileage front, just kind of how it played into your decision.

B: Well, back when I was in high school, even the new pickups they were coming out with that had V8s and 4-wheel drives were only getting somewhere in between 15 to 18, and that – at that time the gas was up like it is now – I think it was close to $3.00 a gallon, if not over, and so we just said, well, it's got to get way better than that, so the Mustang – the V6 Mustangs that were out at that time were supposed to be getting 26 to 28.

I: That is a lot better. And what about financial considerations, did that play into your decision at all in getting this –

B: Uh-huh, because I only had a certain amount of money to spend on this new car and I had a set of cars that I was looking at and it actually wasn't my first choice because I didn't think it was in my price range, and then our dealer said that, no, no, wait a minute, it actually – it actually is if you want to get a hold of one, so I said, okay, let's try for that then.

I: Cool. That's great. I'm wondering – you just bought a new car so this is a very redundant question – if you had to do it over again, would you do anything different? Or would you get the same thing?

B: Oh, yeah, I'd definitely get the same thing, because this time around I still didn't have enough money to get a pickup and so – and they're still not doing good on the gas mileage. I'd much rather have my fun car.

I: Yeah, sure. So I'm wondering about sort of an ideal world, with no constraints, how would you like to get around?

B: Oh, I'd like to fly everywhere. I'd like to have both my pilot's license and my helicopter's license so I could just jump in and fly wherever I needed to, because it's way much better than – so much better than a lot of driving.

I: Definitely faster.

B: Yeah.

I: So tell me also a little bit about what makes it better to you. I brought faster in but that may not be what's important to you.

B: I just really like flying. My dad's a pilot and my mom's a pilot, my brother's a pilot. It kind of runs in the family. I just – it's so – like, if you have your own airplane and if you have a pilot's license, it's so much easier to get around, like, longer distances, like, driving from Missoula back to home isn't such a big deal but like my brother's other side of the family, all of his in-laws live in Nebraska, and so if he were to fly there, even in our little airplane, that would cut off 6 hours, off the 12 hour trip.

I: That's a lot. So I forgot to ask on the gas mileage question, just talk me through a little bit, if you will, why that was important to you when you were buying that car

B: Just because the mix of what kind of car I was getting, because looks and performance were also really important to me, but I definitely needed something that wasn't going to cost me, you know, 60, 70 bucks every time I filled it up. Like I said, it actually wasn't even my – it wasn't even the car that I was hoping to get because I figured not only it would be too expensive but also the insurance would be too expensive, but that didn't actually turn out to be the case. When we found out, you know, it doesn't cost us much, the insurance isn't going to cost as much, and it gets 28 miles a gallon, sure.

I: It's a good mix.

B: Yeah.

I: What else were you looking at?

B: I was also looking at a Pontiac Grand Prix. It was 4-door car, but it had this – just about the same amount of power.

I: Is there anything else, any big decisions that you've made related to transportation, like where you live or could be vacation travel or anything that comes to mind that –

B: Not really. Not – the last big decision I made was when to actually go home and get this new car, because I had to take my old one and trade it in at Havre.

I: Cool. I just like to ask those open ones in case I'm missing something. So I'm going to switch to energy, if that's okay, like residential kind of energy so like electricity and heating and hot water and that kind of thing. Do you live in a house or an apartment?

B: In a house.

I: Okay. And are you renting it or buying it?

B: Yeah, we're renting it.

I: Okay. Great. And so it sounds like you live with other people.

B: Yeah. I live with three other people in a 3-bedroom plus a bonus with 3 bathrooms.

I: Okay. Nice. How do you guys handle utilities? Is it in rent included or is it –

B: It's separate from our rent and so we just take the utility bill and split it 4 ways.

I: So tell me a little bit about kind of how you approach energy use in your house, just kind of – is it something you guys think about or talk about or not so much or –

B: Oh, well, we don't want to end up paying a huge amount of money for our energy bill so, like, throughout the winter we try to keep the thermostat pretty cool, like we – I think the warmest we ever turned it up to was about 67 in our house. Would much rather put on a pair of socks and a sweatshirt than turn up the heat. Electricity wise, we're probably a little bit – probably a little bit – what's the word I'm looking for? – liberal on electricity use, like I try to turn off extra lights, you know, wherever and try not to have too many things plugged in, but at the same time, I don't really care if something's plugged in or not. I leave all of my electronic stuff, like my chargers and stuff, in the wall and I know that's not good for them but we – I wouldn't say we're too bad.

I: Sure. But it sounds like it's not like super top of mind.

B: No, not really.

I: Which is totally fine. That's just the kind of people I'm trying to talk to, so it's perfect. So I'm wondering kind of how – is the way that you approach energy and transportation similar to how you grew up or different or kind of how do you think you got kind of started in your thoughts about that?

B: It – probably how I grew up, because just the way – well, maybe not even how I grew up, though, because where I lived, we had to – I lived out in the country so we had to drive into school every day. I lived 20 miles away from where I went to high school, so I drove 20 miles there and 20 miles back every single day for 4 years. And so, like, when I finally got to Missoula and I lived in a place where I didn't have to drive every day and I could just hop on a bus, that kind of changed my outlook on stuff. I don't like filling up – I don't like going to the gas station, that's one of my least favorite things to do, because it seems like I'm just throwing money away when I do it. But on the energy use thing, I guess, like, we – I was always used to like – Rudyard is really, really cold in the winter, so we always had – we always had the heater going. My parents loved the thermostat to be at like 75 degrees all the time. I have no idea why.

I: Well, it's really cold. They're probably cold outside. That's interesting, though. So you are a little different than your family.

B: Yeah. By the same time, like, my parents absolutely hated when there's a light on that shouldn't be on or if the TV is on, like when nobody is watching it or something like that, so I guess I get some of that from them. I definitely like the thermostat to be lower than they do.

I: And would you say primarily just because of your comfort or because of the cost or what's kind of driving you –

B: Because of comfort. I'm pretty cold blooded so – pretty warm blooded, excuse me, so I don't like it to be too hot or else I'm uncomfortable.

I: I'm wondering if – we kind of talked about this a little bit with your housemates – if energy or transportation issues come up at all in conversations with your friends or your family or if it's not really a topic that comes up.

B: When I first moved into the house that I'm living in now, I was really amazed actually because, like, it was so easy to get on the bus. I was like I've never had this – I've never had this before in my life. There should be no reason for me to drive during the week at all now but I still do, sometimes. But energy usage not so much just because I know that nobody – nobody complained this winter when it was cold outside and we didn't turn up the heat and I just go around, like whenever I see a TV on a light on and nobody is watching, I just turn it off. I know my roommates do the same thing.

Nomethetic Quote Table 2 – Environmental values

N2.1 Emily

And how would you say you got started on kind of this saving – interest in saving energy and the interest in reducing transportation, fuel use, that kind of thing?

E: I mean, I think initially it was a little more wrapped around the idea of sustainability, knowing that there's only so much oil, knowing that some of it comes from Nigeria and really horrible places and off-shore drilling, the impacts that we don't – that are just externalized, understanding that, and then the climate change stuff came into it, so you put the two together and it seems like it's kind of obvious why it's my obsession. I'm surprised it's not more people's obsession.

I: And so how would – what keeps you going on these, you know, to do all these things, making trade-offs between, you know, things that are easier and things that are –

E: Yeah.

I: What kind of keeps you going?

E: Yeah, I mean, some of it – a lot of those things that we do are saving money down the road, and so I think there's, you know, some idea that it's nice that are electricity bills aren't that super high. But it is clearly more than that. I mean, it's just being able to – especially since I work and I ask other people to work on solutions to climate change, whether it's doing hard policy or coming up, you know, you're asking politicians to make statements that politically aren't necessarily in their best interest or to be leaders on this issue. I mean, I'm talking to faith leaders and asking to be leaders on this, and if you don't – I wouldn't know how to do that unless I'm thinking about my own personal impacts because it's just too – I mean we're all hypocritical and I know – I just flew to D.C. to talk about this stuff. That's a lot of

carbon. I feel like the more I can try to live more sustainably, the better I feel about the work that I'm doing. And I think it's also a very important message to kids that it's not all about what you want to do. I mean, my daughter is like can we get a hot tub, I'm like, no way we would ever have a hot tub. That's not – it doesn't fit within our ideas about living on this planet. So teaching her that there are some constraints or there are some ways that – the things you don't do just because of the more common good, I think is really important.

…
I mean, I think it's just the overall idea that by our greed we're dramatically changing the planet without concern for how that's going to impact people, places, and wildlife. I mean, we just – while the normal workings of the ecosystems can't adapt to the pace that we are changing things, so what you're going to have is you're going to have the have not's have even less and whether that's a bird or whether that's a person who's struggling to survive, those are the have not's. They have no voice and they have no ability to pick up and move somewhere where the water is flowing and the rains are coming.

…

N2.2 Crystal
I: What do you think about the issue of climate change?
C: um, I'm kind of in the mix of it. Um you know I think the climate's always been changing but I also think that you know more people, more blacktop, more vehicles, I definitely think that's its having an impact on it. But like I said I'm kind of on the fence with it because I think with evolution and just things changing. I think it was going to change anyway. But I just think how can people not be impacting what's going on I the world. There's more and more people and more and more cars and more companies and factories and all of that stuff. So it's hard for us because I think we take it for granted with the family and driving around and what we have to do to get around. I don't know I think I'd be less vehicle if I didn't have the family. I mean definitely. I mean partly for the environment but partly to be selfish and not have to spend money on it. The amount of money I could save for oil changes and gas and all that, and plus I'd be helping the environment too. We recycle cans for sure. My dad drinks beer and he brings it and calls it my kids college fund. But all of his friends and everybody brings it to us. Because again our friends think it's silly to recycle because you don't get that much for it. But we recycle all our cans and anything we can do, we help with that like recycling.
…
I: that's interesting. When you were buying your efficient car or all the things your doing in your house, did you think about climate change at all or did that come into your decision process either way?
C: not really to be honest. I think eventually it does but that was not my immediate thought. I think eventually it does. But even like with recycling, I don't know if that's my immediate thought. I think its in the back of m head because I know that every little bit helps but I don't think its like oh I better do that for climate change. So, I don't know. I don't think that was forefront. I think ultimately that's part of it but it's subconsciously.

N2. 3 Amy
I would really love a hybrid. You know something that's not guzzling up so much gas and making so much pollution. I just don't make enough money to buy one of those.
A: yeah, sure. And so with the hybrid is it primarily the gas mileage that appeals to you or?
I: well trying to reduce emissions really. I mean that's where I'd like to be, you know just not spitting out all that pollution.
...
A: yeah sure. That's great. So in an ideal world—this is kind of a similar question—how would you like to get around if there were no constraints? What would your ideal situation be?

I: Hover (laughs) a hover craft. I would love that. (Laughs) I don't know just anything that would get me through the snow and the ice to my house um and just not puke up emission all over the place. I don't care what it looks like, how pretty it is, ugly it is I wouldn't care. Just efficiency.
A: And where would you say your interests in kind of being low emissions comes from?
I: You know I don't know I think it's just kind of my whole um outlook on just just cleaner air. You know there's not gonna be…my kids gonna have kids and I don't even know what this planet is going to be like when that kids an adult and it's just kind of scary cause we're already breathing poison constantly. We're eating poison with all the stuff their putting in the food that we buy at the grocery store. So, I'm looking out for myself first. You know we eat wild game. Bill hunts. So um we try to keep a lot of that stuff out of our lives but you take some of it in. But you can't help it, you take some of it in with the environment the way it is.
…
I: So, in terms of the gardening, I don't want to put words in your mouth, but does it sort of fit with being self sufficient or you also mentioned you don't like how the chickens are kept and the factory farming? What kind of motivates you to do all the gardening and the canning.
A: Oh, yeah, again just not eating all the pollutants that come with commercial food. Cause you know they spray with whatever to keep the bugs off. I prefer to use praying mantis and lady bugs to keep the insects out of the garden. And like I said this year we lost our garden to the deer.
…
A: so I'm interested in your thoughts, what do you make of the whole issue.
I: You know, I don't know a whole lot about climate change. Um, well that's the new word for greenhouse effect is it not? Yeah, you know they say (pause) I just, I guess I don't know what to believe because there are always different theories, they're always coming up with a new theory. And I don't think anyone really knows what's going on, or what's happening. I mean I know, yes the planet is changing. But that could be just natural evolution. I know that we're contributing of course with our emissions and pollutants to some degree. But I don't think anyone really knows to what degree. And, you know but I know that it does have a hazardous effect on it and that's why I try to do what I can.
…
I: well no, my concerns are more with the population explosion. You know that's where my really big concerns are. I think that's the biggest impact on everything. If people could just you know limit the size of their families a little bit. I know lots' of people want big families and even I did. But that was my reasons for having only one child. Because I would love to see the population reduce a little bit. It's just getting too out of control. I mean there's no more room for people. There's no more room for plant life really. I mean we've taken over every square acre of the planet. So, I don't know where that's gonna go, but it's sort of scary.
A: that's interesting.
I: when that's gone, we're all gonna be gone. I mean we can't sustain ourselves without the plant life and the animals and all that flora and fauna. When that's gone we're all gonna die off. And I don't think people see that. So that's just my biggest concern is just the population growth it's just out of control.
…
I: I just want to get al.ong with the planet and our mother earth and that's pretty much my whole political view on energy and climate change. If we take care of this planet she'll take care of us. That's kind of my view on it.

N2.4 Sonya
And then the Prius, for the gas mileage and fuel consumption. And I know a lot of people are buying it for the price of gas, we were doing it for the environment.

I: great. And when you say you are doing it for the environment are there any particular issues that were in your mind or your thoughts in terms of what the prius would help with or just in general?

S: in general, I mean petroleum extraction, global warming, yeah. I mean trying to take as little form the planet.

S: fuel costs was not the reason we thought about that. The Prius is an expensive car but uh we thought it was worth it.

...
I: yeah, where do you feel like you got those values.

S: I think its family. It is always interesting to meet people who either don't believe or don't' care. It's hard for me to see where they are coming from. But I mean, one is you just might not belief it's true. I can't believe that if someone believed what is happening to the world is happening that they just would not care. And for us, I mean we were both, particularly me, but both of us were raised in an aware family. Aware of politics, aaware of human rights, and aware the environment. And part of the environment thing was I grew up in Pittsburgh but we went to Colorado and Utah and Alaska backpacking so there was a love of the outdoors that was cultivated in the house hold. Which I'm sure I think if you care about enjoying the environment you're more aware of the environment.

I: yeah, yeah and what would you say keeps you going on the efforts of being green or taking car eof the environment?

S: That's a hard one, I mean that's who we are. I feel internally guilty when I'm driving the big car around except I know that there's times I have to. It's the society we live in. So, its internally motivated.

…
I: So one of the major issues that has to do with energy is climate change. So what are yout thoughts on climate change. Where are you on the issue.

S: Um, I think it's really scary. And I think it's uh. I'm gonna start crying. Why am I getting so emotional. You know when the kids talk about it at home, I'm like you know in your life time there could be no polar bears (crying a little) you know the 10 year old comes home and it hard with the kids to make it not so scary and say the way we live is ok. We have to be aware of the way we live. I must be in an emotional momebt here. I never thoguth I'd start crying here. I'm crying, for the record, I'm crying.

N2.5 David
I: yeah, wow. So, I'm wondering how you like to spend your time out of work, hobbies or?
D: Yeah, mostly outdoor recreation, run and backpack, and ski, uh…reading, I do hunt, I don't really think of it as recreation, more an ecologically friendly form of protein gathering. Yeah, so that's it outdoor recreation would be the main thing, reading, family time.
…
I: like do you think [climate change] is happening?
D: oh, yes. Um, you know the science is tricky and its hard to get a direct answer but I think anybody who is objectively looking to weigh the preponderance of evidence would pretty much have to agree there are human induced changes happening to the climate right now and likely to happen to a much greater degree in the future. I mean, people will always find a way to believe what they want to believe. But, there's a good chance that I would be pre-disposed to believing that even if the evidence was weak, but I don't think the evidence is weak. So…And I think, especially because for a long of time we made our living working in wild places and one of the first big books, popular books anyway that came out on that was Bill McKibbon's The End of Nature on one of the points of that is that there is no place that's really wild anymore because human induced changes are reaching all those places. And having spent a lot of time in

wilderness and having those places mean a lot to us early on that caught our attention and it's only increased from there.
…
I: Yeah it is. And you mentioned the impact on wild places. Would you say you're interested in both the impacts on people and non human nature?
D: Oh, sure. I mean people are very resilient and we'll always make sure that we feel the impacts as little as possible. But the impact on wild places I mean I would say they are already extreme. You can't in all cases link it directly to climate change. But if you're talking about how many generations of pine beetles happen in just one growing season and what the impact of that on that on our forests are, white bark pine are (alludes to extinction), migration of many species northward or up in altitude and you can only go so far up in altitude if you're a pika. They will suffer a lot more than we will.
…
[in response to question about if he does anything else to reduce his environmental impact]
D: Uh, family size? I don't think hardly anybody let's energy use enter into those decisions but…
I: Do you feel like for your family it did?
D: Um not so much energy use as human population in general and environmental impacts. But if we were making those decisions now with awareness that carbon counts are so much higher here, it might give me one more argument on why we should not have any more.

N2.6 Gary

G: And then when I moved out here, the first thing I saw when I moved out here, I was up in Northwest Montana where the Kootenai River comes into Montana, by Eureka and Libby, and the dam was built and the reservoir was not yet filled so behind Libby Dam was 90-mile long river and the high water mark of the reservoir was all clear cut, so here was this, you know, for a Midwesterner to see the Kootenai River was like the most incredibly beautiful, largest thing I'd ever seen in my life, and here it was completely dis(inaudible) – 90 miles of it was just – there were slash piles burning so there was this smoke, this destruction. I had no idea that human beings could cause so much destruction, really, and I stood on that dam, which was not filled yet, wasn't even operating, and I looked at this watershed that had been completely gutted and this beautiful silver river was flowing at the bottom of it and I thought, what could I possibly do that could help not have this happen again? I really do. It was like an epiphany for me.

I: Interesting.

G: And from that point forward, I just – I decided I would do everything I could just for conservation just to try to find ways of using less

…

G: I love this place. I'd like to believe that there are places just as magic, someplace else on the planet that we don't have to despoil to live there. So I've been through this whole thing with forests, forestry, clear cutting, sustainability of wood, as well as energy, and to me it's all this interlocked thing. We have some real stresses on our forests right now, and when you see when you go to a landfill, you're going to realize that 50 percent of the volume in the landfill is paper and you've barely looked at it, you threw it away, you barely looked at it and you threw it away, what are we doing? I mean, that's just – and then they thought computers were going to reduce our per capita paper consumption and it actually increased it. That's – I don't know. So our per capita paper consumption in the United States is rising -- it was before the recession – it was rising at about 3 percent per year, 2.3, 2.7 percent, not much. China's was going up 7 percent per year, a billion people who need toilet paper. You have no idea the scale of what that means. Oh, my God.

I: Yeah. That's interesting that you say this – you're motivated by this place. Can you say a little more about –

G: I just love Montana and I love the fact that we have remnant natural watersheds, remnant natural ecosystems here and we have wilderness areas. And many of us have worked really hard to hold those in tact for a long time, and they're at risk. But now, oddly enough, we don't even have a wood products industry left anymore to fight. I just think that's – that's really sad. I never meant to destroy them. One of the best guys I've ever met that understand this natural forest ecosystem better than anybody are foresters and loggers. They had no intention of reaming it all out, but prices, no controls, private land, public land, just – and there's silvicultural reasons for harvesting some of the way we did, not justifying all of it. It's a complex issue. All I'm saying is we did get some rocks and ice saved, too bad we couldn't save some valley floors and some natural lower elevation ecosystems, there's not many of those left intact because they were too good to produce stems.

…

G: Yeah, and I'm trying not to be a preservationist. I mean, I know we can't preserve everything but I think that with better stewardship, you know, land stewardship and husbandry of things that we could treat the land better than we do, and a potential for Montana right now is restoration-based economy, restore the Butte-Silver Bow complex and the Clark Fork River and restore some of the things that we've destroyed in the past is a huge opportunity for us to fix things, in a big way. And not just throw money at it but find the most cost effective way to restore something and then just kind of put a Band-Aid on it so – I'm making a metaphor – putting a big Band-Aid on it so nature can heal itself because you can't possibly go in there and throw enough money at something if you made a big mistake, but if you can help nature learn to fix itself, 200, 300 years go by, you're kind of back to – so that restoration-based economy is huge.

N2.7 Indigo

I: And how did you get started on that idea? I mean, what was sort of the – it seems like you have some sort of a theme or founding principles or something like that.

R: Well, eco villages are permaculture, and eco villages – it's a global thing. South America has tons of them. So that's kind of like the founding thing. If you look on global eco village network, GEN, you can see all the eco villages and all the – mission and vision statements. We have all that. Operating agreements and – you got documents up the ying yang and we formed an LLC to hold it all financially so it's pretty structured, which is good. And I guess I've always been interested in community – I spent a summer in ashram one time, and I thought this is the way to live, you know. It was a long, long time ago. And then went and got involved with the cohousing group and that fell apart because people wanted their house right now and weren't ready to spend time as a group to develop everything. Then ran into this group, and [names a person] just said, Oh, there's a meeting tonight, and I go, I'm going, you know. That must be 6 years ago. I could look on the calendar. I don't remember. It's been a long time.

I: Yeah, that's great.

R: It's been a long time. And then the group as a group, you know, people joined and left and joined and left and joined and left until there was just a solid group of 7. We just kept going and developed all our missions and visions and did all that kind of stuff for the eco village and the financial structure and land thing and we had that all done before we found the land. We looked at a lot of land, a lot of property, and when this one popped up, it was like we were ready, and it was ready. We just like walked in, do it.

I: That's great. And it's called an eco village. Does it sort of have an environmental focus or how would you describe kind of in a nutshell what it –

R: Well, it's based on permaculture, and permaculture is social and environmental. It's the whole thing. It's a decision-making by consensus and it's living in a very efficient way so that, like they have zones, so like your house is zone 1 or zone 0, it's like that's the center, and then you put things, like concentric circles basically around your zone 0, zone 1 – zone 1 is just basically outside the house – so that everything is efficient. You try to do it as efficient, and they call it stacking function so like the chicken provides eggs but then it also provides poop, and then we take our compost and feed it to the chicken. All those things. Everything is in cycles, nature knows no waste. It's based on that, basically. You use and reuse and reuse and reuse, and we don't throw things away, as much as possible. And we do have garbage cans and we do use – it takes us a long time to fill garbage cans, which is good. We don't dump on the land, except for compost or like slash, you know, natural materials. And then we're building, you know, what they call swales so – we bought a chipper so we can chip slash and make swales which makes little berms so as water falls – we live on plateau, or table so when the water falls down from the house, it gets caught in these places so it stays wet year round and then we can grow deciduous things, fruit trees and all kinds of things like that. So we can sort of like make a micro environment that's wetter than the average up here, you know how it is, dry during the summer. And then using pray water systems and snow catchment systems and all that stuff. That's part of the whole picture, use what comes on the land, with the land, and reuse it until it's – it gets disbursed, turns into fruit and vegetables, animals, and all that kind of stuff.

…

R: I did farmer's market so we bought from farmer's market, tried to stay as local and as organic as possible. Our sort of thing we say is we buy food that is the kindest on the earth for whatever it is. Like you're not going to buy local coffee. So you make a decision, it's got to be a fair trade so we're not exploiting people and it 's got to be organic or shade grown so that, you know, the environment isn't affected. We do all that stuff. Our sins we pay a lot of attention to that stuff.

…

I: So we've kind of touched on this a little bit, I'm interested in sort of what appealed to you about the house where you live or kind of what appealed to you about this kind of community that you live in?

R: It's just in my blood I guess. I don't know. My father did organic gardening. I grew up with in the '40s and '50s, so that's just, you know, it's just part of what you expect and I grew up in a large family so living with a ton of people is what I grew up with. I'm also pretty much a loner and an introvert so this appealed to me when we went there and just – it was so much forest, just so beautiful. It was cleared around the house, the 50 feet or

whatever it was, and the forest was cleared and it has a nice light understory so it's really diverse compared to most forests and it's been taken care of and there's a meadow and all that kind of stuff, so it's just the feeling of it, just feels really good up there. That's the main thing, the land, it feels good. And then there's quartz ridge sitting up there so that we have humongous quartz rocks hanging around up there and it's really nice feeling. You want to cool out you go to quartz rocks and sit. Or if you need to go out to exercise, you just take off. There's – you can go any direction, 75,000 acres of public land at our fence line. Because there's Lubrecht and Garnet and there's BLM and then the nature conservancy stuff that they've done, we're connected to all of that stuff. So, yeah, that's why, it's the land. Nice house was really, really – that's a bonus. Didn't have to be so nice but it is a very nice house. Australian Cyprus floors and all this stuff. It's like – right. Didn't need it but it's fine. It's really nice.

…

I: And what would you say kind of keeps you going in this kind of lifestyle of energy efficiency, and it's bigger than just the traditional energy efficiency but kind of what keeps you going?

R: I don't know. Something feeds me somewhere. I think it's true for everybody. If you find where you belong, you get fed by that. And it's hard work but it somehow even the work feeds you. There's an energy flow, and if you don't block it along the way, it just keeps happening. I don't know. That's the best I can guess. I know that land feeds me when I go home, I just feel, Aww, I feel like air here and just – Missoula is very intense but it's an extroverted world and I need the introverted world just to keep my energy from being blocked. Too much of this and I need to go home.

…

I wish we could turn back the clock. Yeah, my – I feel like it's happening, that those changes are happening, and I think that there's a possibility that the carbon dioxide rise in air is a really big part of it, but there also may be cycles that are in the earth that are also happening at the same time, and that's why it's so exaggerated. I don't think it's one thing or the other thing. But certainly man has influenced climate, man has – as soon as man, you know, stood up and lost his hair, he had to do things to his environment in order to survive and he's been doing it ever since. It's been a long many years.

I: It's interesting you're saying turn back the clock, can you say a little more about that?

R: It would be nice if, even if at the point before World War II, you know, before they went into the chemical stuff and atomic bomb and all those things, I mean, chemicals we put on our agriculture are the same chemicals that were nerve toxins of the war. I mean, if we could not have discovered that, or stayed with a more natural way of growing things, agriculture is one of my things, and it's like it would be nice if we could start making decisions from 1920, before the chemical industry and industrial revolution – well, before that too – but just I think the chemical thing, changing chemicals and digging so deep for fuel could have been – if we could have foresee – I mean, other than Tennessee and Appalachian region for the farming – not farming, the mining – and then taking the mountaintops off. It was bad enough back then when I was there in the '60s, '70s too, but they were taking – they were mining and the people were sick and land was sick and the streams were red, it was just awful but now they're taking off whole mountaintops. It just makes your stomach turn. If we could not need that much fuel, you know, if we

could not have gone global, you know, fighting a war across the seas probably – that whole process began. There was money to be made in the war and they were out to make it at any cost. They didn't know the natural cost. They didn't even think about it. It's not like they went, Oh, let's just go rape the earth, they didn't think of it that way. This is money. So the profit motive kind of, I think, my view, ruined the earth. We could have lived on this earth very happily in a, quote, unquote, lower state. So I guess the challenge now is that we have the technology so that we can live lighter so we'll start using technology. Telecommuting from home, we're not driving a car to work.

N2.8 Andrea

A: I guess for me personally it has to do with my interest in the environment. I'm protecting the environment with – I have my degree in biology and environmental science and knowing the impacts of energy consumption in addition to cost savings. I would rather spend my money on a nice dinner out or even at home than I would pay the electric company. So having a dinner by candlelight is nice [laughs]. I don't know – and I think it is the balance of that. We don't have a lot of control over how much our energy costs but we do have control over how much we spend on it. Does that make sense?

I: Yeah. Absolutely.

A: So I'm making those conscious choices.

I: Did you grow up in a similar kind of a framework or similar household?

A: Yeah, I would say but my parents were fairly conservative. I mean, dad went around and saying, Hey, shut off the lights. And I don't know where that stemmed from other than, you know, maybe a similar thought of cost savings for him but it translated into much more for me.

I: And what would you say motivates you to keep going on doing all of those things?

A: I think it's just the right thing. I mean, if I don't need a light, why have it on. Kind of practicality of it. If it's our practice to do this, we're not having anymore savings but we're not – so we're not realizing anymore savings. So if we made a major behavioral shift, we would – you would initially realize a lot of savings but over the long run, it's just how you operate. So I would say it's habit, one, and just, again, the practicality of it and seeing energy consumption in other places skyrocket, an increased awareness or a continually growth of awareness of the impacts out there.

I: Yeah, that's interesting. Can you say a little bit more about that of what you're thinking of?

A: Well, when – I guess growing up we started out with small recycling programs and they've grown over time, and the need for them has grown and the, I don't know, information around it. So being more part of the informational wave where we're more aware of the impacts of our garbage, more aware of our impacts of our energy usage and how it is involved or connected throughout the world versus just our little town or our little state or our nation even, so I think just being aware of a broader scale.

…

A: But a personal interest in it as well. I think like going back to what started me on it was the personal interest in saving the world, saving the environment, and that kind of protection so …

…

I: Yeah, that's great. I'm wondering if you – did you think about or do you think about climate change at all when you're making decisions about personal energy use in transportation, is that kind of a primary motivator or in your mind at all or not so much, it's other things or …

A: To me it's all related, you know, again, going back to the kind of the essence of it, it's like I'm doing this for the environment and a side benefit or an additional benefit is the cost savings. So they're hand and hand type thing. So do I consciously go, I'm turning these lights off to save the world? No, but what's motivated that habit is definitely a reduction in consumption of fossil fuels and oil and all of that.

N2.9 Maya

I: And how about for you, do you feel like your motivated by the hope of what can be accomplished in terms of your own personal behaviors or –

M: Hmmm…That's interesting. I think I'm motivated by – so it sounds really geeky – but just by where we live. We live in such a pristine beautiful place that that's what I'm motivated by is preserving our place.

I: Yeah, sure. Yeah. That makes a lot of sense. That's actually the next kind of series of questions I was – it relates to your discussion of your grandparents and also this – I'm wondering kind of how you got started being cognizant of energy issues and making decisions that include trying to be efficient about transportation –

M: My background is Scotch so, you know, [laughing] mostly it was money motivated as a child. It was like we saved everything. We're Scotch. That was the original reason why, but I think – and money is a motivator but not a very good motivator for me. I've always just kind of thought of it as funny colored paper. It just doesn't matter particularly. It more matters what you're doing and why you're doing it. So, I don't know. For me, mine is just more like being a good citizen of the earth, you know, kind of thing. I'm from the '60s.

I: That's great. I was going to ask next kind of what keeps you motivated? What started you off but what keeps you going?

M: You know, yeah, right now, like this job and why I'm interested in transportation in Missoula, Montana is because I believe that transportation and giving ourselves over to the oil, you know, realm, as I believe we were kind of forced into, has really changed our communities into something that makes us not be community oriented, and I believe that falling out of touch with your community is what makes people unhappy and continue to just try and consume, consume, consume because they're unhappy so they're just trying to fill something, they're just consuming, that what they're really trying to get back is the thing they gave away and that's a sense of community and belonging, which I believe that you get when you're saying hello to your neighbors and you're getting to know each other, which doesn't happen in a car.

I: Yeah.

M: I say this a lot about riding the bus, when you get in your car in the morning and you're driving to work, you're pissed off at everybody in your way and everything is in your way, the red light's in your way, the person that wants to cross the street is in your way, everybody's in your way, but when you go out and wait at a bus stop for a bus to come by, you check out your surroundings, you see whose there, you get on the bus, you can see lots of people less fortunate than you, you're filled with gratitude, people are not in your way, they're with you on your path to get there. So you just join the sense of community. You have a much better sense of community. You're worried about the old lady that didn't get a seat on the bus and, you know, it's just – you just get into a different frame, mental frame than you do in your car with your little piece of metal around you.

I: Yeah. That makes a lot of sense. And if you're willing, talk a little more about being a good global citizen, kind of what that means to you and where that idea kind of came from for you.

M: Well, I think, for me, what it means is that I really want to preserve the beauty that I've seen. My best example here would be as a child growing up we used to go to Yellowstone and it was a very pristine beautiful place and bears were there and – there were people there but there were not – and there were people in lines in cars but the people and the cars did not overtake Yellowstone. I can hardly go there anymore because there's so much pavement and it's all designed to make cars enter better and I think we gave away one of our world's beauties to the car, for God sakes, when we could have said you can only enter this beautiful pristine place in some – a bus. You may only come in here in a bus and you may come in and go out and you will be led in and led out and we will let it stay wild, and we failed at that. So I'd like to see us do better than that here. And I've seen a lot of failed communities. Look at Seattle, it's a failed community as far as I'm concerned; beautiful pristine place that they gave over to the car. And it's really hard work not to let that happen because, again, once you get inside your little vehicle and you were promised the open road, you want the open road, you know, we were sold the American dream in the car ads that – the woman with her scarf blowing in the wind as she drives as fast as she wants down the highway all by herself, and that's what everybody wants, and it's an unrealistic vision that was sold to us by the automotive people. And I believe it's caused a lot of real problems in our – saving our earth, you know.

I: Yeah, that's interesting. So for you, would you say the – kind of the natural areas, the preservation of natural areas and this idea of community are kind of linked or –

M: Absolutely.

I: -- separate or –

M: No, they're very linked. Because if we don't live – well, look at Europe. Europe gets it. You live in a community together and you protect your outlying land and they do that because they have to because it's a small space with lots of people. And here we have lots of space with – especially in Montana, very few people – but even though we have very few people, we're being really wasteful with our land. So, you know, it doesn't matter that we have very few people, and that makes it much harder for us to fight the battles of community development and living in dense communities. People are "I'm so afraid I'm not going to have all this land that I really don't want because it's too much

work but I think I want it." I mean, I have fallen victim to the idea of going for a Sunday drive out in the woods and thought, Oh, I'd love to live out here, but, you know – I say this a lot [laughing], people forgot to finish that thought, you're not just living out there, you're out there for a minute and then you're driving the rest of your life because you want to come in to go to school and shop. So we should live together and then go out to see our beauty instead of all wanting to live in our beauty. But Montanans wouldn't like that if we tried to regulate that or legislate that or whatever. I guess that's why we need a – you know why democracy doesn't always work for the protection of, you know, what we have that we care about.

…

M: Do you ever watch the electric car?

I: Yeah, who killed the electric car? Yeah. That's coming back up again because now GM is actually coming out with an –

M: An electric car.

I: Yeah, a plug in. It's interesting how things –

M: Is an electric car what we really want? Is that all the better we can do? Why don't we have solar cars? But ultimately even if we found the perfect car that, you know, ran more efficiently, you still have to park it, and once you're parking it and you still have to have a place to drive it, and those two things take up a lot of land space and they cause a lot of wasted energy use to get from point A to point B. Even if you do that, that is not the end-all solution. That's my religion.

…

M: But I think, you know, how can we not choose to live responsibly? I don't know.

I: That's interesting. That's – if you're willing to kind of go a little deeper.

M: I mean, how can we not choose to think that everything has a place on this earth and we're just one of them? Why do we think we're the king of the earth? You know what I'm saying? I just don't feel like we're the king of the earth. So I think our responsibility is to be part of what's around us and what we enjoy and love, everybody loves the beauty of the earth, why don't you want to be part of that?

I: Yeah.

M: I always thought it was interesting that George Bush – I've heard this, don't know this as a fact – I've heard has this completely sustainable place that he lives on so, interestingly enough, you know, as long as we just take care of me in this small little space, you know, but that to me, why would you want to just take care of one small – why wouldn't you want to take a broader so you can travel and see other things and be part of the rest of this great place we live in.

…

N2.10 Glen

G: Biking is my absolute favorite form of transportation. So in an ideal world, that would be it. Definitely.

I: What appeals to you about the bike – how does that rise to the –

G: Several things. One is it makes me feel good about how I'm not contributing to emissions and all the things that go with that; that's an ethical thing I guess. Two, it is cheap; three, and this was – this is something that remains true before and after kids, the exercise benefits of it are huge to me. And, again, I think it's even ramped up more since I've had kids because you don't have all that extra time to go out and exercise and recreate and so building that into something I have to do anyway, which is a commute, I'm thankful for that and oftentimes that's the only 15 or 20 minutes of the day that I truly have to myself. Although, if I have the kids in the trailer, that's not necessarily the case, but you know what I mean.

…

G: We choose to live as close to town as possible, and that is definitely for transportation. I would love to live, you know, 15 minutes outside of town, you're ideal ranchette, blah, blah, blah, you know, Montana rural lifestyle, but we intentionally rally against that actually for lots of reasons. So, yeah, we've chosen to live -- the closest we could live on our budget was the Franklin neighborhood, but I don't think we would ever purchase a home that wasn't at least that close to the center of town or closer. And that has everything to do with transportation. And sort of a land ethic, like a land use ethic that, you know, we do not want to contribute to urban sprawl and we do believe in kind of shared public gardens and open space and all of that. And so, yeah, we choose to live as close to the urban core as possible, if you would call this an urban core, but – yeah. For here it is.

…

I: So how does it connect with you for energy in your mind?

G: Well, for energy wise, you know, you're using less water and there are all those connections for sure. I guess that's the main one for native plants. As far as food goes, we connect with it in that the transportation costs, which are energy costs, of importing food – not just importing food from other countries aka South America right now but, you know, even just driving them within the United States from California or whatever, you know, if you could shrink that footprint, then there's a huge energy savings for the world, you know, there, I guess. And also I know that there's a huge energy cost in processing food as well. If we grow our own food and we eat as simple and whole as possible, I guess, we help to lessen those food processing costs as well. And refrigeration and everything that goes with those giant scales, you know, agribusiness I guess.

…

I: That's good. That's a really good point. How did you get started with saving energy or being interested in, you know, greener transportation, that kind of thing?

G: Yeah. A lot of it started in – well, a lot of it started in West Virginia. When I went to college, I started out as an environmental protection major, that's not what I ended up getting a degree in but – I think I was attracted to those things. When I was in high school, I was an exchange student to Australia, and they had a much more advanced, I feel like, kind of green conscious, if you will, and I was exposed to that, and that was something I held on to and then just kind of further explored it, and it just grew as I got back and then kind of – there was a little dip in college just because I was partying hard, to be honest with you -- I went to just a giant state school and so, you know, it is what it is. And then when I moved to California, again, there's a very elevated, at least from where I moved from, kind of green conscious. And that's the sector I was working into

and so I was surrounded by it personally and professionally. And because I already was a – I had open arms to it, it felt like I fit it, and so that's where a lot of that sort of green ethic and energy efficiency stuff progressed rapidly there. And then Missoula has that same vibe – not same – similar. Again, we moved here, I mentioned, because of – we thought it was a progressive community and we were seeking that out and so, again, I feel like a lot of the nonprofits and services and things that you hear about that make Missoula amazing and unique all somehow you can relate back to energy efficiency and energy savings. So it just keeps getting perpetuated by all of that, by this community.

I: That was actually going to be my next question is kind of what keeps you going on, you know, the – because there can be inconveniences and being energy efficient and transportation efficient, how do you kind of keep motivated to be doing it?

G: How do I keep motivated? You know, one, it makes me feel good. I guess that's a selfish thing. Two, I keep motivated by – again, I feel like I am helping to, like, improve the world. Again, I think that goes right with that comment I said before, that makes me feel good. I think it helps in Missoula that those kinds of things are fun, like, you know, if you go volunteer at Garden City Harvest or if you participate in like Sunday Streets Missoula, it just is fun, so that keeps you going. There's a large community of other people doing it so you can kind of do it together. I mean, another thing, and this is a little bit more heavy, but it's something that I want my kids to have that ethic and so as part of just like a parenting goal, that also keeps me going. So those are probably all the things.

…

G: Sure. That makes a lot of sense. Do you think about climate change at all when you're making your personal choices about energy use or transportation?

R: Absolutely. It kind of goes back to, again, that it makes me feel good I'm doing it, not just from the health perspective but I do think about when I ride my bike, you know, the greenhouse gas emissions I'm not putting into the world or the gasoline/oil industry that, you know, I'm not supporting that day because of what they do to our natural world to extract these things and/or deplete a resource forever that will not be there again. So, yes, definitely. I want to make choices to reduce my footprint that I think helps with climate change, and so, yeah, I think about it.

G: Okay. Great. Another issue that comes up a lot in terms of energy is energy security or energy independence. Is that a concern for you or something that you think about very much?

R: You know, obviously, again, this won't be a surprise having said I'm – my politics and probably just my whole vibe – I don't like war. War sucks. No one likes war no matter what your politics, but – and I think that has a lot to do with energy security. The things I don't like about energy security are I don't like the answer being something like tar sands or ANWAR, you know, more drilling domestically or whatever. If we're going to talk about energy security, I'd like to talk about investing in renewables or other technology that we may not even know about. So I guess it doesn't influence me as much because I feel like what I hear mostly is that feeds the argument that we need to do, more domestic drilling and more natural resource extraction on the home front even if it jeopardizes our natural environment.

I: What would you say kind of keeps you motivated to keep riding your bike when you could drive, or you know, the weatherization or whatever it might be?

P: I remember we had a long conversation with a bunch of the people who were in DC with me. I think that the motivation is an interesting one for me because I don't feel that I'm motivated too much by any one thing. For me, it feels like the right thing to do. It makes sense. There's no need for me to look at the wilderness and think, "wow I need to protect this place because it's really special." Those are special places, but for me it's a society that's really being efficient and taking care of its resources, that's doing this, this and this, and that involves protecting wilderness areas, that involves cutting back on transportation, that involves living efficiently in your home. All those things add up to kind of this overall message we're trying to push, which is "be responsible and don't overdo it." I can't tell you that there is one thing that really pushes me, but it's kind of the overall understanding that this is the right thing to do.

…

P: There are a lot of ecosystems services that we need to depend on and I don't think we are really keeping those in mind. I think there is a really good study that talked about how much ecosystem services were really worth per year and it was like 36 trillion dollars. I think that was kind of a low ball estimate. It was trying to estimate how much of our economy is built on those that we don't keep in mind, right? The world economy is like what, 12 trillion, maybe more, 20 some odd trillion. Not even close that we are getting from environmental things, and we are carving that out, you know, so it's kind of like, okay, smart? Maybe not.

…

P: I think when I really think about energy security I think more about, less about terrorism or wars and more about the argument structure itself and just talking to somebody and be like well, why would you use oil. It's a bad idea. And I wouldn't, you'd be hard pressed to find anybody who probably say "no, we need to buy oil from overseas." The environmentalist in me says that I don't want to transport it across the world. The republican in somebody else might say energy security, they might say, you know, security of the dollar, you know, not energy security but foreign, like security from terrorists attacks. Like where is the money going is a big question for a lot of people. I'm less concerned by those things. I think they're valid but I think that they might be a little bit one sided to see the world that way. To see it from an us vs. them perspective.

N2.12 Joel

J: So, ideally, I guess I would bike and walk most of the time. I do enjoy driving a car from time to time on trips, just having the freedom to go on back roads or whatever. I do think that is not a super evil thing although sometimes I feel like I do see it as a necessary evil.

…

J: Good question. I don't know. It is like people ask me "why are you an environmentalist?" and I don't really know. I think basically it is just a progression. For me it is pretty obvious. I think my parents have always been pretty good about just not necessarily… My parents are not environmentalists, really. I am more on top of learning about climate change and learning about…I am probably more interested in wilderness protection which is pretty much unrelated to, slightly related, but not directly related to, energy use. I am more involved in those issues and kind of the activism side of things than they are for sure

…

I: You mentioned, you said a few times, that a couple of years ago, you were more adamant about this or something. Did something in particular happen or just what kind of change since then for you?

J: [long pause] I don't know. I guess for me it is all intertwined. My involvement in the climate change stuff; my involvement in the trucks coming through here which I see as a direct link to climate change disaster, a.k.a. affecting our future, affecting the future of all the other life on our planet, so I kind of do wrap those up because my motivating force is not so much the fact that I am not the type of person who really cares, I do care about healthy streams for people to look at or fish in and clean air around Missoula, that is all good. But, my motivating – me personally – I find my motivating impetus comes from the idea that our influence is overriding and we need to cut back our influence on the world and other species need to be able to thrive. So I do see them as all connected. I think they are personally, too. I mean if you look at it in the sense the Sierra Club is a good indicator. When the Sierra Club was first started it was like John Muir protecting wild places in California. Well, now, they are one of the lead organizations that are against the Keystone XL because that is what is relevant today and it is kind of like the hot topic, like climate change. So, what changed? I just wanted to say that because I feel like I kind of look at it all in a ball.

J: Oh, what changed. Basically what happened was I think I was too personally invested in it and as far as just "what is going on? This is crazy. We need to do something." It was kind of a negative thing because it was like taking the weight of the world and kind of putting it on you and saying, because I do think that one of the biggest critiques – one of my biggest critiques – is that when people kind of point fingers elsewhere, most people are pretty good about this who are educated on this kind of thing on the issue of climate change or energy use and what its effects are – but often we don't blame ourselves enough I think, you know. They say it's the corporations, or the system, or the government won't, well, you know, we are pretty much part of it every time we make a decision, we are part of that either the solution or the problem. I think people don't necessarily look inside enough and I guess I was almost looking inside too much and it was like it is all on me. If you look at it super hardcore, and I am not saying that, but if you do, and obviously this has been talked about in environmental discussions, it is kind of like you should just commit suicide if you want to do the best thing for the environment. You can't look at it like that. You just can't do it. It is not a healthy way to approach the issue. I guess what I am saying is if you feel like your decisions are painful, you know, then you probably shouldn't do it because -- maybe you should – but I guess to some extent you could be like the ones pushing the envelope like civil disobedience or social movements is what I am thinking about. Those first people who step up and make that change, it is painful or it does take energy and it may not be a positive thing. It may not be a cheery and laughing kind of positive. But, I do think if you are taking it on yourself so much that your happiness is affected, you have to step back, and be like it doesn't really matter. It does matter, but you personally have to put it into perspective by saying there have only been like seven extinctions in the history of the world. Does it really matter that everything goes down? Who knows? Maybe there won't be humans. I don't want this. I am not saying this is good but I am saying that it is a viable thing to think about. We could get hit by an asteroid tomorrow or we could discover that climate change is coming (and I am not saying that this is what is happening) but what if we did figure out that climate change was a natural, i.e. nonhuman occurring thing. Would we really freak out as much? I don't know. I think a lot of the whole idea behind our reaction to the issue of climate change is the fact that it is caused by us. So if an asteroid hit or something that wasn't as acute, or something that was more long term, I think a lot of the blame would be like "oh, we should just kind of let hands off and it's ok." I personally

don't think that is a good option but, I guess I find some solace in that. If it all goes downhill. It's okay. It will just rebuild itself although it will take another couple of million or billion years.

I: It is very interesting that your thought process…

J: Just basically to sum it up, I was too personally invested in it. At one point, I think I talked to my family at the dinner table and I was like " this is crazy", I don't know what I was talking about. I think it was climate change or something and I was like "Do you guys not care that in 2050 we will not have coral reefs in our oceans? Like, is that a big deal and do you even care about that?" They were kind of joking. They all care but it is like "why don't you care more?" I actually broke down and started crying at one point. My brother told me later that "I think that is a little too much, man. You can't be like that all the time. I think you can every once in a while."

…

J: I think the bottom line for me is, you know, climate change is kind of a symptom of what is going on. I personally view it as the overriding influence of humanity on all life is unacceptable. I think other beings need to be free from constraint of people. They need to have the option to fulfill their evolutionary potential and we can still kind of fulfill ours whatever that means. I guess climate change is important to me, but it is kind of only important to me because it affects other things. It is not like…I am one of those crusaders like [names a person at the university] "oh, climate change is *my* issue. I love climate change. I research it all the time." To me, it is more like sort of a burden. I had better know something about climate change because that is what is going on.

…

I: I am interested in kind of what do you think is going to happen, what worries you about climate change?

J: Let's see. No glaciers in Glacier National Park. I worked as a backcountry ranger in North Cascades National Park and there are over 300 glaciers in the Park there and much of them are going to be gone. Well, actually, I mean there are some areas I guess in the Sierras that there is a chance that the snowpack would increase and I guess that could accumulate to increasing glacier size. What I am mostly worried about is the decline in biodiversity in general and its effects on people. I don't know. I am kind of embittered towards the human race because it is kind of like we are finally getting some of our own poison. Yeah, of course, I am worried about cities flooding. And, of course, on a person-to-person basis, I have gotten over being cold towards people or using that as a justification like, "ah, man, you shouldn't exist. You just ruined the world and you don't care." So, I have gotten over that but my biggest concern is the loss of biodiversity which is, you know, diversity is amazing, the amazing parts of the world we live in. It is pretty important to realize that we are not the only ones here. So, that is a big thing. I guess there is a lecture, what is her name, I want to say she is from UC santa cruz, she talked about climate change and like nature and she was saying, "of course, nature will survive climate change but that's not the question, the question is: is the type of nature we want going to survive climate change. It was really interesting because biodiversity in and of itself is not necessarily… you have to like the idea of diversity of life to subscribe to that reasoning. But, she was like it is all what we want and do we want there to be like, you know… The coral reefs, for example, I mean more life lives under the ocean than above so if you think about the coral reefs, boom, they are gone. That is the backbone for diversity of our oceans. That is a huge thing. And if that is caused by the acidification because of increased CO^2 levels of our atmosphere, that just seems like that is a huge thing. The bottom line is if that is the only thing that climate change did, I would be against climate change at least, anthropogenically-caused climate change and that is what I believe the

primary source is which ties back obviously to our energy consumption and our lifestyle choices and where we are at in society right now.

…

I: You mentioned a couple of times places that are important to you and wilderness protection and that kind of thing. How does that tie into your thoughts about climate change or why climate change is important to you, or does it?

J: Well, there are a lot of interesting things about climate change and wilderness. One thing is more like academic but it is the idea that wilderness is this stable state, it does not change. Therefore, climate change kind of brings into question a lot of that. So essentially you might have to essentially take a new approach to defining what wilderness is. It is not so much just this place that we leave totally unaltered and is totally unaffected, like free from… I guess I think about [names person]'s book with [names person] about naturalness. I hope it get this right: free from human results, human impact unintentional or intentional. Or basically unintentional – just the human effect on the land. One is kind of "What is Nature?" It's pretty important because a lot of people talk about "aw, I care about nature" and the natural world. But, what exactly is that natural world and why do you care about it? So, free from human impact, climate change totally calls that into question so there is no place on the face of the planet that is not affected by humans if you look at it in that view. And you can also look at air pollution or whatever as other things as examples of that. Definitely that type of thing and understanding that climate change directly impacts wilderness areas. Of course, it definitely impacts wilderness areas and have the whole idea should we assist the migration species is a big deal. Should we move species A to this location because we think the climate is going to move it there or it would move there if it could but can't because of a mountain range. That is a big deal and I honestly think no, we should not. We should let things die out. I do like the idea of biodiversity but I don't think we can really save biodiversity. It is like a Band-Aid. Someone is suffering from multisystem trauma injury like their leg is broken, their hand is broken or whatever, you are not going to just slap a Band-Aid on it. "You're good, dude. Walk home." You know, you have to call 911. You have to get the whole deal going and I think that trying to solve things like biodiversity or species extinction, at least in the local area, trying to solve that through assisted migration is not acceptable. I think basically there are a lot of things that play into how we look at wilderness and how we might deal with climate change in wilderness areas that kind of puts a lot of stress on wilderness and like whitebark pone mountain pine beetle it is going to go up in elevation when climate change increases our temperature because it can't kill the beetles in the winter and we don't get those hard freezes. Yeah, that is going to have some influence on wilderness areas and we'll see more red trees. I don't really care about that but, like our pine being completely gone. It is related but it is not really because the biggest thing is the blister rust coming in but climate change might have… You know, the blister rust comes in and weakens the trees and they are more susceptible to beetles which are connected to climate change because now they can exist at those high elevations. So there are all these links and they are kind of hard to decipher. I think the biggest thing about climate change is, I mean, actually, sometimes they are hard to decipher; other times, not so much. I mean, think about the pica. There is the possibility that the pica is going to be gone. That is a big deal. That is a wilderness species. I mean it is typically in those high elevations talus slopes or whatever. The pica is gone. The wolverine. You know, there are connections there that will definitely be a factor. It is hard because with climate change, how do you connect those pieces of the puzzle? There are so many other factors. Say it warms; say it cools. That brings in a different species and maybe facilitates non-native invasives, disease spread which then has some impact here, I don't know… Yeah, it definitely is a factor. It really is something that contributes. As I said, my impetus and a lot of my motivation comes from the idea of protecting wild places and if I see a threat to wilderness as the overriding influence of people and climate change is one of those influences, I think it is definitely connected.

…

J: I guess they are inter related, but what I am saying is that I don't want renewable energy to be… A friend once told me that finding the perfect renewable energy source that is 100% clean (I don't think it can ever be 100% clean), super cheap, free, say easily harvest the energy from the sun in a super-efficient manner like this much to supply a city. The analogy is giving a chainsaw to a toddler because now you have given so much power to basically build more, move more, you only want more of all the problems that we have now, is the way I see it. I don't want that. Yes, we should move towards renewables and that is great, but ultimately, energy independence is important but I wouldn't say it is necessarily…it depends on how you go about it. To me a lot of problems don't have technological solutions and I believe this one, energy, where it comes from, etc., does not have one. To me that needs to be reformed at least within society. It just can't be, oh, we are going to find some sort of plankton that helps us out because there is going to be something else. Say everything was super cheap, energy was super cheap, then what is going to happen is that everyone would drive everywhere and all of a sudden you could heat your home super easy, then everyone would get bigger houses because it would be that much cheaper. These restraints that are placed on it, I mean it is good that fossil fuel goes up to $5 a gallon. I would prefer that. I don't personally want that because that is a burden on me but, if it means we reduce our consumption, it is a good thing. So, the same thing is true with a lot of renewables. Nothing is truly renewable. It is taking up space or it is utilizing some energy that the earth is receiving and it can spur increased development which I don't think is good.

N2.13 Rich

R: But I think gasoline should have at least an additional buck fifty to $2.00 tax on it per gallon.

I: And what are the kinds of costs that you're thinking of when you're – you mentioned if we would internalize all the costs?

R: I think that gas tax pays for new roads, first of all. I think we – Missoula is a great example of this – we build a lot of roads that if we had a little more forethought about how we live and get around, we would not be building developments out in open – what used to be farmers' fields. We'd be creating – and that's one of the things I do in my job is try to create density, because I think density is good for the environment but it's also good for (inaudible) tax base – I can generate more tax revenue in what I call the downtown with less lubrication of infrastructure, the roads are already there, power is already there, sewer is already there, and if I can fill that space in, grow up, fill in the empty spaces, I can generate way more taxes with less expenditure on the infrastructure, and that's the immediate sense. And then there's the long-term maintenance of that infrastructure. One of the things I try to do is get the city to do a better job of snow removal downtown, safe and clean, and snow touches both of those; tax base and creating a pedestrian place are at the root of everything I do in my job, if I'm going to be successful. And snow in the winter is an impediment to pedestrians. Big time.

…

I: So one issue that comes up a lot when we're talking about energy is climate change, so I'm wondering what are your thoughts on that issue.

R: I think the climate is changing. I think – there's no question it's getting warmer. I'm not convinced that it's all us. I am convinced that we are the minimum part of the problem. I

like the conversation, and I know it's not justification for a lot of folks, but I think the conversation actually helps us treat the earth better. Hopefully, ultimately, we can. We are having an impact, you know, 50 years from now we might look back and think, oh man, we were so wrong, it's more of a natural thing. We could be under 16 feet of ice here. That remains to be seen. The conversation is not a bad conversation, though. I would support carbon credits and ways to try to manage carbon we are putting into the air.

…

R: I am convinced that it's not too late for humans to change what they're doing, but again I'm not – I think it is difficult to measure whether it's our activity that's having the biggest impact or it's the natural cycle.

N2.14 Rachel

I: So tell me, you just mentioned a little bit about gas, what appeals to you about the Prius?

R: It doesn't use much gas so that would be the big thing for me. I guess you get the best of feeling good about your impact on the environment and you get to pay less for gas. Have your cake and eat it too I guess.

…

I: So, doing the weatherization and things, what is kind of motivating you there?

R: To save money.

I: Yeah, that is an expensive heating bill.

R: I think it is definitely more money than it is the environment.

…

R: Yeah, I think it is happening. I think it is manmade or man-contributed. So, yes, I understand that there is climate change.

I: What is your perspective on what might happen with climate in the future? Do you feel concerned about it? Or not concerned? What do you think?

R: I guess I am concerned about it. I do individual things that I realize don't…I know better. I do individual things that help me individually as a person like I will recycle quite a bit. But, like, I got this coffee but it is too late to wash a coffee cup so I just got a paper cup then again I am sick, so I am like or whatever. Anyway, I get most of my clothes from thrift store shopping. There are a lot of things that I do where I am more environmentally conscious that I do because of that, recycling, so because of that I am concerned about it. But, again, there is Slaveryfootprint.org you can see how much stuff you use and how many slaves you are contributing to online.

…

R: So, I guess there are certain things when you are recycling I definitely do it because it is easy because we have recycling on the university property, so our recycling is right behind us in the alley. We have it sorted in our foyer, you know, boxes for cans and whatever, and the glass. I purposely make trips to the Good Food store to put in our glass jars and we wash them out. So I guess I make personal efforts like that but I don't make other efforts. My other efforts are usually to save money. But they do have an ecological benefit to them like buying secondhand and walking; but they are more of a personal decision.

I: For other reasons.

R: For selfish reasons.

…

R: I think with the recycling because that is the only thing I really do consciously to help the environment because I could just throw it away, recycling I feel like came to me because I saw how much crap like if you've ever been to a landfill, and see how much stuff is there. That made it a lot more of a priority for me. I lived on this island for a couple of months where they had to burn their trash and I had to go up there one time to get rid of some trash and everything was kind of on fire. It was a beautiful, beautiful island in the Caribbean and then you had to drive up this thing, and go down this road and anyway it is on the top of this mountain. And you're seeing this whole thing was like burning but yet you could see the beautiful ocean around it. I think I kind of recycled before that but after I got back I realized it was just disgusting. There were like dogs running around; it was just gross. So, I think even more visually I saw it and it was just gross the amount of stuff that goes into a landfill and there were only a few thousand people on this island. It was just DISGUSTING.

I: That is interesting.

R: And, you know, you see pictures of the islands near China with all of the plastic bags and I'm sure they'll be nalgene ones, too. I guess I do that, too, I have the tote bags instead of plastic bags. That is half environment and half that I hate that they all just get shoved under my sink. So it is equal frustration personally and… So, yeah, personally seeing it and so, okay, now I'm going to do it. Climate change is harder because you don't' see it. Maybe you could see it through polar bears. I don't know, just a bad joke.

N2.15 Liz

I: So tell me a little bit about kind of energy use in your house, how do you handle that, like, you know, just kind of what is top of mind or not top of mind about – is energy top of mind or not top of mind when you're thinking about your house or just kind of how you approach electricity, hot water and that kind of stuff?

L: I mean, I try to keep it top of mind. I don't think our house is very efficient, like we're looking at our hot water heater and we can't turn it up any more and we only get like 7 minutes of hot water. As far as that, I mean, there's some things that we don't really, as renters, we don't really have control over or can't afford to fix or whatever, so – but I mean as far as like heating, the furnace is set to a certain heat and I know that – I mean, I have a lot of like house managing responsibilities so I tend to just leave notes and say don't touch the heater. Or a lot of times our door doesn't get closed. There's a lot of – I feel like I have a lot of stress saying this is just kind of like money going out the door and I don't like it. I mean, I like to think of myself as environmentally friendly too but at this point I'm just looking at it as money and I don't like when our energy bill comes and it's way higher than I think it should be.

…

L: I think the saving money I definitely grew up with that. I grew up in a really frugal family. So I mean it's something that I – in some areas of my life I'd like to let go of a little bit but as far as conserving energy, I don't see a problem with turning the heat down a little lower than maybe other people do, I guess. I try not to turn it down too far because that's just uncomfortable. I've also gotten to the point where, you know, I rented a house and we kept – it wouldn't go above 68 ever and now I'm to the point where, you know, if there's a day that we have to turn the heat up, I'd rather be comfortable than not

comfortable. So, I don't know, and just being I think growing more into being environmentally friendly and – I think with the prices the way they are with gas prices and energy prices, it's – I mean, it's hard to distinguish between being environmentally friendly and just wanting to save money, honestly.

…

L: You know, I can't – I haven't decided. I mean, I listen to both sides and I feel like what ends up on the news or the people that do, you know, a lot of what we hear are the extreme sides of both. So I'm having a hard time finding my middle ground and I just – I feel pretty confident that the – our climate and the environment change over time as is. But I don't have any doubt that we've added to that with having so many people on the planet and having all these things in the air. I have no doubt that we've accelerated it but I also believe that the Earth goes through its own processes as well. So I don't – I mean, I think as a – as people living on the Earth, we should respect it and be conscious of what we're putting into our environment but I think we should all respect that the Earth has its own life and processes and nature as well.

…

I: Yeah, that's interesting, Good points. So I'm wondering in terms of climate change, would you say you're concerned about it or not so concerned or where do you kind of fall?

L: Yeah, I mean, I think I'm concerned about it. I think it's – living in Missoula, I think everybody tends to be more concerned than if you were to live in – I don't even know, so New York or something – not to say that they're not concerned but I feel like Missoula is a very environmentally – everybody loves the earth and wants to be a part of the land and – maybe that's too generalized but I feel like Missoula in general is that way. I think I'm definitely concerned about it. I'd like to see the earth thrive and be good for a couple more generations at least (laughs a little).

…

I: That's great. Did you think about or do you think about climate change at all when you're making decisions about transportation or energy or not so much?

L: Uh-huh. Yeah, definitely. I mean, like I mentioned earlier, it's always top of mind it's cheaper for me to bike than it is to drive. But being environmentally friendly is also – that comes to mind when I choose to hop on my bike instead of drive my car.

N2.16 Jane

I: Sure. What would you say if you were going to say, "Well, I think it's a natural process, or I think it's caused by human activity or something in the middle," or kind of…where do you fall on that one?

J: I, I mean, I do think that it is human related. I think that we are over consumers and we don't really, I think, um, like I say it's more of a modern thing. People are becoming conscious of it but we're still really living in the past in the sense that people don't believe it and they choose not to believe it so they can just continue to live their current lifestyle because it's a lot harder to make a change than to actually believe that we are destroying the planet that we live in for future generations. I do think that it's our, each individual's ecological footprint combined that's creating these massive changes in weather, and destroying the world (laugh) I guess.

…

N2.17 Leo

L: I kind of like – like I say, I kind of romanticize that settler life. So maybe I think if I was wealthy enough to do that kind of thing to build a house off of the grid, I think that's kind of cool. Kind of in a romantic sense but not because of, you know, money or saving the environment or anything like that. I kind of have mixed views on what green motives are. I don't see, you know, don't see a lot of pollution here in Montana, not like you might in China, where it's a big, hot button issue right now with all the coal and the low grade high sulfur coal that they're burning there. And all the greenhouse gas emissions, you know, you can't hardly say that humans haven't affected their environment but, on the other hand, looking on a geologic time scale, we've been global warming for at least 10,000, 15,000 years. We know that because of the fossils we find around here were arctic fossils, you know, mammoths and that kind of stuff, Glacier Lake Missoula and all that stuff, we're definitely in a warming cycle, have been for lots of years. To say whether or not it's accelerated because of human, probably is, there's probably no doubt that it is. Should we curb that? We can't say, Johnny, you'd better curb this, look how we evolved over the last hundred years on an industrial revolution and all the pollutants that we pumped out and we said, well, look what we've done recently, you know, who are we to say to another country and a sovereign country like that that they shouldn't have the same kind of growth, same kind of – maybe with enough growth, they'll see that they have to fix that. I don't know. I'm not directly affected by it so I'm kind of washy on the whole global warming thing.

…

L: Well, yeah, definitely happening. I mean, it's been happening for 20,000 years, according to the fossil records. Like I said, do I think in the last hundred years of industrial revolution that humans have accelerated it by pumping out greenhouse gases? I think it's pretty obvious that it's true. It's here and we should use this planet, you know, it's like I'm not going to curb my usage because I feel like I'm contributing to global warming. I don't think that – it's kind of like when the settler came to the forest, should I cut down those trees and build a house or not? Should I impact my environment? Yeah, if it makes your life better, you're going to impact your environment. If you need a house, then cut down a tree. (brief interruption to take a phone call)

…

L: Here in Montana I'm not too concerned about climate change. I tend – a little warmer weather wouldn't hurt us too much. It would probably benefit us. You shift that climate zone a little further north and all of a sudden we're in a little better situation. If you just take a look at 100 miles south of here, Salmon, Idaho, and it's beautiful down there, green summers and you just shift it a little bit, it doesn't seem – it's like, you know – it would be nicer if Cutbank was a little warmer in the wintertime, you know, I don't think – here, at this parallel – you know, if I was living on a coastal city with my house right on the beach and hurricanes and sea level rising, it might worry me a little bit more. But, here, a little shorter winter, a little longer summer, I don't really have that much problem with it. I say fire up those coal-fired generators, (laughs) you know, save me the trouble of moving south, just move south here a little bit.

…

: -- and in a larger sense, do you feel like it's something we should be worrying about or not so much?

L: Yeah. What can I do to change it? I'm not really a big policymaker. Should it be addressed? Yeah. I mean, pollution should be addressed. Just like living here in Missoula in the '70s when – fireplaces, and they put the ban on that, in almost all towns

that are built in valleys in this region– look at Colorado, Denver, the problem with the inversions and wood heat, Missoula is such a nice, much nicer place since then, much, much nicer. We used to live in Stevensville and we'd come into Missoula and come shopping and it was – you could just smell it. The pulp mill being shut down and – wow, it's such a nicer place because of it. It concerns me that they're putting a big smoke stack here in the University with – just got rid of one smoke stack, why do you want to put another one up?

…

L: So it's got to go someplace. It seems like it's kind of a green idea to have a biomass. It's kind of – you could heat and produce electricity, run boilers with it. So, I mean, it's probably a good idea but I don't like the idea of another smoke stack in Missoula with the inversions. I mean, with Smurfit being shut down, there's days when I was out that – the wind was the right way, you could smell it here in town. So I think it's not good for the economy that they shut that huge employer down, but I'm pretty happy that they're going to scrape that mill. I mean, they're not going to build another paper mill out there. I don't think that Missoulians or people in this area with the Democratic base that it has to allow another manufacturer like that to come in to here. It's probably not in our backyard kind of mentality around here. I think it's great that they're tearing it down.

I: Primarily for the pollution? –

L: For the pollution, yeah. I have an aunt who has property out there within a rock's throw of the mill, and it is just so much nicer out there with it not running.

…

L: It's sad what happened there in Japan with the nuclear crisis. I would like to believe that's safe, a safe alternative. Public support is going to be hurt by those incidents. I think if it's done right that nuclear is probably the way to go. I was interested to see that – I can't remember the company that applied for a patent for a nuclear plant that was about the size of a Volkswagen bus that would power a whole city like Missoula – actually I think the technology is evolved in it that it's getting safer. The sad thing about that is the terrorist threat, you know, because if you bomb a nuclear plant or something like that, that's – you really affect a large area. But I do think that that's probably the way that a lot of densely populated – France is really big into it – I think that nuclear is probably the way of the future. Places like the west in the United States, there's – they're backing away from hydroelectric wild and free rivers and that kind of thing. I think that that's – at the time, I mean, it's a great source of energy. It's hardly polluting but I don't see any big dams being built in the United States. They're building a big one in China the Three Gorge dam. They have a huge demand. It's an emergent economy, huge demand for energy, and the kind of coal they have over there is high in sulfur so coal fire doesn't seem like a very good idea for them. The east coast of the United States, they relied heavily on coal and oil burning and stuff like that. I think that that is – my wife was out in Boston this last year and I think they're really doing a lot to clean up the air in that part of the country. So more reliance on nuclear energy and grid systems that pump coal fire from the western states. Like Wyoming, they have – they're building coal fire down there. It – the pollution doesn't affect that many people down in Wyoming, you know, they can -- better grids will make that power more available on the east coast, less coal burning on the east coast. I mean, I think that's probably a pretty smart move.

…

L: I think if you look at the earth from far away, you can't even see what humans have done but look at certain places, especially developing countries, that's – it seems pretty serious in developing countries. Humans are making more of an impact on their environment. So

you do see some human caused global warming but like on the geological scale, it's like how much of it? Should we do something about it? Well, yeah, we should probably do everything we can but we still should be a human, we should build cities, dams and make our lives better. I think the billion people in China deserve the same quality of life that we have here. I don't think that we should be able to say, you can't build that dam and you can't have color TVs and you can't drive cars, we're driving cars and you have all the infrastructure that's – it's a double standard. I don't want to give up my quality of life. I'm concerned about it but I'm not going to give up my quality of life for it. It's kind of an honest answer.

N2.18 Lynn

Lynn: Well, for me, a lot of it is for financial reasons just to help pay for getting around because it gets expensive. Also, to conserve I guess, I mean as much as we can but it is kind of hard. Actually I feel like in Missoula it's pretty tough because it is spread out and so we end up doing a lot of driving.

…

Lynn: I would say that, well, I didn't think about energy at all when I was a kid. You know, it just wasn't a front burner issue like it is now so it wasn't anything that our family talked about. But definitely now, you know, it is a lot more on the forefront about making sure that we are doing our best to conserve as much as we can but just like everyone, I'm sure that we could do better. So, I would say just by learning and understanding the issues and as we got older, you know, and implementing what we thought was important, you know, budgeting, and all those things are factors

…

I: Do you feel like it is kind of a natural cycle or something that humans are contributing to or both?

Lynn: [Long pause] I don't know. To be honest with you, I do feel like it probably something that humans are contributing to but I don't know enough about the scientific data to say like is it related to the ocean and the temperature of the ocean and all of that. I guess I don't really know. I guess I would err on the side of that humans are causing it because That is something you can take care of, work towards and help, and try to improve where you can't really do much about the temperature of the ocean. If it is that then it is. But I think it's probably…I think that humans are definitely part of the problem for sure.

I: That is a good point. Would you say you are concerned about climate change or bothered by it?

Lynn: Yeah. I am not losing sleep at night but I am definitely concerned just about it because it has so many impacts. I mean like on our water supply. I think could have major impacts, so it is definitely a concern.

…

I: Yeah, it is kind of hard to avoid here at the College of Forestry. So what would you say we should be doing, if anything, about climate change?

Lynn: Well, you know, I think we are on a decent path. I think as far as climate change goes, I guess transportation. I think that is probably a good start, trying to get reduced fuels going up to the air. I don't really know what all I could do besides that, just being careful of that sort of thing.

N2.19 Grant

I: Yeah, that is fair; that is very fair. Would you say that you think climate is changing?

G: I think it is definitely changing but I think it is a lot slower than they let on and it is just one of those cycles of the world.

…

I: What do you think, if anything, will change with climate change and what do you think – what kind of time scale, you mentioned hundreds of years?

G: I guess a lot less than I thought it was cause like *An Inconvenient Truth* wanted you to think in the next five years there won't be any more ice on the planet. And again I read some more on National Geographic like in the past week or like the past year like the overall average temperature have gone up one degree Fahrenheit. I mean it is relatively small; I am sure it is more in some areas and less in some areas. It doesn't seem to be that extreme.

…

G: I guess on that subject I'd be a lot more leaning towards the conservative side because I think that wildlife and animals are great but at the same time I think humans come above wildlife and animals. I think there are certain areas that need to be drilled but I think obviously you need to leave national parks and that type of thing out of it. But I mean if there are natural resources to be tapped, you might as well use those in the United States that we have vs. just I mean allow some animals to have their habitat, but if they can be moved, they can migrate, I think overall that should take priority to become more independent of other countries' oil sources and energy resources when we have the ability to tap into our own in America.

N2.20 Tony

I: Yeah, that would be great. What is the primary motivation behind wanting to get better gas mileage?

T: I guess it is 50/50: financial and not wanting to waste a natural resource.

…

I: So what appealed to you about the house where you live now?

T: It was the right size and it had a tremendous view. We have always had houses with a good view and this one certainly meets the criteria.

I: Just tell me a little bit about energy in your house. Is it something that you guys think about, or how do you decide where to set your thermostat or that kind of thing about energy use in your house?

T: We certainly are cognizant about that. My wife works out of the home and so a lot of times she is the only one home. So, rather than heat the entire house to a comfortable temperature, she has – I can't remember what she calls it – it is an individual room heater in her office and so she will keep her office nice and toasty but the rest of the house we keep at 65˚ most of the time. We don't really turn it up until we are uncomfortable. So when everyone is finally getting in at night, then we will kick it up. But, we never heat the entire house toasty warm (laughs); we just don't.

I: So, just kind of walk me through your thought process on not heating the whole house, kind of what motivates you on that decision.

T: The same things: financial and not wanting to waste energy.

I: So how did you get started would you say in terms of your two primary interests that you mentioned in terms of not wasting money and not wasting resources, is that how you grew up? How did you come to think about those things?

T: Well, I think the financial one is just the same as most people – well, not everyone – but a lot of people live on a budget so there is no sense wasting money on something where money doesn't have to be spent. So that is the financial end of it. And then the natural resources is just kind of trying to "do the right thing" and not wanting to use energy that you don't need to use.

…

I: So I am wondering first of all what are your thoughts about climate change?

T: Well, I am kind of split on it, to be honest with you. I look at the national events with volcanoes, and forest fires, and everything going on and we can't even touch the kind of things -- the particulates -- that are put into the air with our energy use compared to what Mother Nature does on her own. So, I don't know if I buy all that. On the other hand, you wonder how can we not when we are doing all of this? So, I don't buy in to either end of the argument quite frankly that we are causing it on the one end and that we are not doing anything on the other. I guess I fall somewhere in the middle on that.

I: That makes a lot of sense. Would you say it is something you are concerned about that climate might change or is changing or that it is not so much a worry?

T: I think the climate is always changing and has always been changing. I think the main premise of your question is whether or not it is human caused. I don't know if we can influence it quite frankly. I almost believe it is bigger than we are. But, when you look at all the different stages that the earth has gone through over the thousands of years and we know that it has been changing forever and it is probably going to change. Definitely right now I think it is warmer, we don't have the crazy winters we used to have and so I don't know if that is just climate change, global warming, you know whatever; but I kind of lean just to climate change and that it always is changing.

…

I: Yea, that makes a lot of sense. What do you think, if anything, we should do about climate change?

T: Well, shoot, I don't know. I guess maybe that is why we kind of operate the household – other than our vehicles because we all drive wherever we go. But, as far as the house and keeping it running, I guess, you don't want to change your lifestyle but you don't want to waste anything and –perhaps-- impact anything, you know, just because you don't know for sure. I don't know what we should do. I don't think it is worth changing our lifestyle and sit around in a freezing cold house and not going somewhere because we don't want to waste energy or burn a fuel to get there. But, I guess that is a great question and I haven't thought enough about.

…

T: Okay. I really think that is two questions. As far as the energy security, that has never even crossed my mind. I feel secure that we will always have enough energy. As far as being independent, with our current usage, I don't think we ever will. I mean it just doesn't make sense. You know, when you can get it overseas for what we can get it for now why wouldn't you? And if it became more expense to get it from overseas, then we have the next natural resource right here – natural gas – and that will be developed. We have the technology already. So, it doesn't concern me; it doesn't bother me. I guess if it ever did happen, it would bum me out. You know gas prices are going to go up for a bit until they get the options working. So on the security end of it I have no worries because I am secure that we will always have the fuel that we need. On the independence end of it, it doesn't worry my either. But, I know that when we finally cross that bridge, it is going to cost us some coin [laughs].

N2.21 Ben

B: Well, I like to think that climate change is happening. That's kind of why I like -- I say I should be better at doing some of this type of stuff, like not being so liberal with my energy usage and stuff, and we're trying. It's like I know one thing that we're doing back at home is that since my brother owns this biodiesel business, we're trying to use a higher percentage of biodiesel because it's less greenhouse gases and it burns cleaner and all that stuff. Trying not to drive around just for the sake of driving around, but sometimes you need to do that. Like a – I shouldn't be the one to talk because, you know, being a farmer like everything we do burns fossil fuel and so like I don't know if I'm the best person to talk to, but we're trying.

…

I: Yeah. Absolutely. That's a good point. Another issue that comes up a lot with energy is like energy security or energy independence, like being free from foreign oil. I'm wondering what your thoughts are on that issue.

B: I'd love to be free from foreign oil [very emphatic]. I'd love to be free from petroleum in general [very emphatic]. I'd love to – I realize that maybe bio-fuels aren't the end all, be all, but since I have a close personal attachment to that, that's the way I'm leaning right now. I don't understand why people are so resistant to it. It kind of seems like anybody that tells you that biodiesel and ethanol are a bad idea, they don't have an alternative. They just say, these are a bad idea so let's just keep burning fossil fuels. I'm not necessarily sure that that's the best way to look at it. I'd like to see – I'd like to see hydrogen fuel cells work, I'd like to see electric cars work, I'd like to see it all work because I just – I have a problem with being told that we have to burn fossil fuels and this is the price we have to pay for it because of some other country halfway around the world.

Nomethetic Quote Table 3. Consumption values

N3.1 Emily

I: What kind of keeps you going?

E: Yeah, I mean, some of it – a lot of those things that we do are saving money down the road, and so I think there's, you know, some idea that it's nice that are electricity bills aren't that super high. But it is clearly more than that. I mean, it's just being able to – especially since I work and I ask other people to work on solutions to climate change, whether it's doing hard policy or coming up, you know, you're asking politicians to make statements that politically aren't necessarily in their best interest or to be leaders on this issue. I mean, I'm talking to faith leaders and asking to be leaders on this, and if you don't – I wouldn't know how to do that unless I'm thinking about my own personal impacts because it's just too – I mean we're all hypocritical and I know – I just flew to D.C. to talk about this stuff. That's a lot of carbon. I feel like the more I can try to live more sustainably, the better I feel about the work that I'm doing. And I think it's also a very important message to kids that it's not all about what you want to do. I mean, my daughter is like can we get a hot tub, I'm like, no way we would ever have a hot tub. That's not – it doesn't fit within our ideas about living on this planet. So teaching her that there are some constraints or there are some ways that – the things you don't do just because of the more common good, I think is really important.

…

E: I guess the only thing would be we just don't buy that much stuff. We have a small house so you can't buy that much stuff. We don't really want to put our money into that and, like, I can count on one hand the times I went to a store with my daughter to buy new clothes. We just bought her some underwear because she didn't have any. But usually that's hand-me-down too. So we all shop at the thrift stores and we – part of that is because it's cheaper but part of that is because it's just – there's just so much stuff out there. [Daughter] was joking that she doesn't even know what Old Navy is. We had to orient our lives that way a little bit that stuff is not that important, even though I still like stuff. There's times when I wish I could – like this – so I have to curtail that interest, and my husband has no interest in stuff. It kind of works – he's probably a good temper on that.

…

E: I mean, I think it's just the overall idea that by our greed we're dramatically changing the planet without concern for how that's going to impact people, places, and wildlife. I mean, we just – while the normal workings of the ecosystems can't adapt to the pace that we are changing things, so what you're going to have is you're going to have the have not's have even less and whether that's a bird or whether that's a person who's struggling to survive, those are the have not's. They have no voice and they have no ability to pick up and move somewhere where the water is flowing and the rains are coming.

…

E: Sure. They fit in my world view. I don't know why we would be so greedy as to not care what happens to sub Saharan Africa. It's just not who I am, so that influences my politics which is –

N3.2 Crystal

C: Mm hmm so the van was because I have three kids and just transporting and we have other kids go with us so we just needed a bigger car. I had a Dodge Stratus before that but it just with three kids and if you wanted anybody else it was just getting compact with car seats and stuff like that. So um, that's when we went to the van. And we had a truck prior to that again because we had a camper. And then the van is an 02 and we'll keep that pretty much until it dies I think just because of economics. And the car we got last summer—(phone rings) Uh I think I need to get this.

…

I:So, I'm wondering if you were going to buy a new car what would you get?

C: I really don't know what's out there I haven't really shopped. But I would definitely buy, because of the family a four door. Something economic I mean definitely, I try not to buy brand new because it loses

its value but within a year or two so it still has a warranty. But gas mileage is going to be a big deciding factor for what we get for sure.
I: interesting. In an ideal world, with no constraints how would you like to get around?
C: well, you know it's hard for me right because of kids um I would commute to work for sure. I'd do the park. Because I pay for parking. So if I do the park and ride I wouldn't have to pay. I could pay a commuter (parking rate) because that's a lot less expensive. Then I could drive part way and ride my bike so I wouldn't have to worry about parking. I just don't feel I can do that right now with my family because I'm the primary person that if somebody gets sick at school or something. But when my kids get older I plan to do that.
…
: And where in Missoula do you live?
C: Up on 56th street? Do you know where that is? It's up on the hill.
I: like up on the south hills?
C: not the rich south hills, not that part,
…
we have a gas insert or fireplace downstairs too it's a stand up. We'll use that sometimes too but mostly we use our electric. And um we're pretty conservative. We have a timer on our thermostat so we turn it down when we're gone during the day and we have our home mode our evening mode and our weekend mode so we're pretty efficient with that. And we have blankets. [Friend] makes fun of us with that (laughs. When company comes we will turn it up but for the most part we have sweatshirts on because we don't want the heat bill. And it's not that it's uncomfortable it's just we don't have it toasty warm in there. We definitely think about that. And we do have an air conditioner, its central air.
I: oh, ok.
C: but we are also pretty cheap with that too and so maybe three times this year we turned it on. My husband cleans it out but for the most part of the time we use fans, so again to keep down the costs.
I: So it sounds like primarily these are to conserve on the energy bill. Is that right, or are there other kind of thoughts going on in your head in terms of how to decide about how to use energy or what appliances to buy or?
C: Yeah, most definitely we got a new dryer and we wanted to make sure that was and a new fridge and that was because the other one was running constantly. I mean it was doing ok but it just was an older fridge and so we decided to get a new one because of the energy costs and the dryer the same way it just wasn't working well. So, um I think we do make conscious efforts with that. All our light bulbs are the squiggly ones. So we've changed out all our light bulbs in the house so their like that. Um and we have lower watts of light bulbs. And our kids are pretty good about shutting them off when we're not in the room. So we try to be pretty efficient that way.
I: yeah, great. Do you feel like you notice a difference, like you can tell when things are going up and down?
C: Yeah, we definitely can because of the company. And we are fast shower takers so we really watch the heat with that too. And we wash our clothes in cold water and we hang them for the most part. My husband built racks to hang them on so we use the dryer to kind of fluff but we don't dry fully. And I'll put the racks outside in the summertime. But um, my son calls us cheap (laughs). But I don't know we've just always done that and we just feel we should do that. Plus our appliances will last longer too, the less we use them as much and we take care of them.
I: yeah, so how did you get started on all of these conservation things, you said you have always done it, did you grow up that way or?
C: yeah I think so. I mean my parents they had a clothesline. And when I was in an apartment before I met my husband I mean it just was an economics thing I just saw one and I would hang things up on chairs, my parents helped me buy my first dryer. And I just did want to have a big electric bill So I just kind of converted and then we got married we just kept doing it.
I: yeah, so do you think your husband also did that kind of stuff before he met you?

C: Yeah
I: so it was important to both of you.
C: Mm hmm
I: and what would you say motivates you to keep going. You know keep kind of taking all these actions and keep up with them?
C: Well you know a couple of things. We want to save so we make sure that we can keep what we have, you know to make sure our expenses aren't outweighing our what income is. It's easier I think to use the dryer and easier not to worry about the lights but we want to make sure that we keep it and that our house is good for us later on. And I think that the money is a big thing for us too. I mean I'd rather spend the money on something else. I mean, my kids are in braces I would rather put my money to better use than the lights being on or the dryer being used when it takes 5 minutes to hang them up.
I: yeah that's interesting, makes sense. Ok I got off my list here, it was good though, perfect. Oh, how do you interact with your friends and family on energy issues or transportation issues. Is it something that comes up very often in conversation or, do they respond to you and the way you do things at all?
C: not really, I mean our friends will tease us because it's cold in the house and we'll turn the heat up for them. And they tease us about the drying because you know they think it's silly that we're doing that to save 35 dollars or whatever, they just think they would rather not waste the time.
I: that's a lot though actually, you know, you can tell if you're using the dryer a lot, you can see it in your energy bill?
C: Absolutely, I mean that is multiple with many things. I mean we have underground sprinkler so we also try to keep track of that. So what I do when I budget, I'm a big budgeter, I budget our heat bill and then I budget the same amount and then I do with water. So I'm not on a budget bill. I know a few people who do that, so they pay one price whether it's winter or summer.
C: I feel that that wouldn't be good for us because ours varies so much because ours is pretty low compared to others but then our water goes up in the summer compared to our heat so then I budget the same dollar amount but in different areas, so our heat goes down but our water goes up. Budget billing is big for a couple of people I know so they just pay a flat fee winter or summer and I just don't feel comfortable with that right now I mean it might go down some but then I would not have my budget for the water.
I: yeah, interesting.
C: but talking with people I mean there isn't whole lot, I mean my sister I think is the complete opposite of me. But we don't really talk about it that much. I mean we talked about it with my parents buying the vehicles and about saving money but we haven't really discussed it in detail. So, my parents have all solar, their whole house is solar and back up by propane.
I: oh interesting.
C: but their fridge is propane, their stove is propane. Their hot water heater is propane and then they have solar for everything else with a back up generator.
I: and they live in Darby?
C: They live in Sula.
I: oh ok,
C: they have some panels and they had somebody help them do it. And they have abig battery system. I don't know exactly how they do it.
I: oh, interesting. And so, have they always been into having alternative energy or?
C: No, not really, they bought a place when I was still in highschool, so like 27 years ago and they didn't have power and they had 35 acres and it was too expensive to bring the power to them. So they started off with just a hunting cabin and then they decided to move up there and sell their other house. And they didn't have anything basically besides propane and they have a little wood stove. And then my dad got more and more into solar and it's been about 5 years that they've been into solar. And they had somebody help them out a well in this last probably three years ago. They had a compost potty before that. So now they've switched that out. It was all just financial for sure. So the amount of money the invested, and they

got a tax credit for that. I think they said it will be 11 years that they'll go energy free before they start having to put anything or money back in for batteries or new panels or anything.
I: wow, interesting, so it seems like you were saying you grew up like that, I can see how your parents are frugal.
C: yeah, they're pretty conservative and they did not have to pay a whole lot either because they were on a military base so housing was pretty much provided for you. But still when were growing up we shut off the lights, even though we weren't paying the bills.
I: and did you guys talk about it all as kids, do you have a sense of where that motivation came from?
C: I don't uhhh huh, I think it was more money, but they really didn't have to worry about it. We never really talked about money when we were kids.
I: yeah sure, that's interesting. And um in your experience like how did you learn about all these different ways you could be energy efficient or how do you think people learn about those things.
C: I don't know I think some of it you know people watch the news and you know gas prices are going to go up and the oil spill and all of that. And you have to be careful so you know those decisions are big but gas prices aren't going to 99 cents anymore its going up. So I think the older you are the more you get exposed to different situations and um examples kind of that you know I had no idea that that truck we bought was going to be so bad for mileage. I knew we needed a bigger truck for the towing and hauling but when that hit we were jst like what are we going to do. So some of it is just like learning and then punting and being like we need to get a car and you know that's what we decided.
I: yeah, interesting.
C: In Montana if it's older than 10 years you can put a permanent plate on it. So you know we pay a one time fee and pay for the licensing up front and literally it's 10 dollars extra for the insurance because we switched the other one over. So over time we'll have to see how it saved us. We haven't done that though, I thought about doing a spreadsheet to see how much it saved us for the vehicle plus the licensing and we had to fix one thing for the light inside but other than that we haven't done any maintenance besides the oil you know how much would that change is we paid the 8 miles a gallon. So I was going to see you know how many years before we break even or start making money.
…
[explaining what she thinks society should do about climate change]
C: yeah, I think if we can work with the companies, they won't like it but if we can help to see what the toxins are and try to lessen that. And also with the vehicles, I just think it's silly to have a Hum Vee coming around why do you really need that. For me it's minivan and everyone teases me because I don't have an SUV. But you know the minivan does the same thing. It's not as fancy looking but it does decent for gas mileage for what I need. And I don't know, I'm not into the show. And a lot of people I think in California and bigger cities are into the show.

N3.3 Amy
A: I'm wondering if you would be willing to describe your political views?
I: ehhhhh, um, yeah, I don't really get into that very much, yeah, [pause] and I'm really not happy with the way we're forced to live, being so dependent on the dollar kind of thing, so I just kind of stay out of it, and keep my mouth shut and go along with everybody cause that's how you gotta survive here. And that's about as far as I want to go with that.
A: ok, sure.
I: because I could get really heated and I don't want to do that.

N3.4 Sonya
I: Interesting. And how would you say you got started on having this green house and green car?

S: I think same as what I said, whatever I said about the Prius. Just an awareness of how much we're taking as the whole world but particularly as Americans from the planet and the shape it's going to be left in.

…
S: And then the Prius, for the gas mileage and fuel consumption. And I know a lot of people are buying it for the price of gas, we were doing it for the environment.

I: great. And when you say you are doing it for the environment are there any particular issues that were in your mind or your thoughts in terms of what the prius would help with or just in general?

S: in general, I mean petroleum extraction, global warming, yeah. I mean trying to take as little form the planet.

…
We use the bus sometimes but it's not convenient because from the rattlesnake you have to go down to the transfer station and then…Ideally we would be biking and using public transportation. And I don't know, in Europe you could do it. But I don't know how small towns could change. I mean going to the good food store is a royal pain. Ideally I would live like they do in Europe. Having everything downtown. Being able to walk in take a bus and do more local quick shopping rather than needing a vehicle once a week and filling up a car.

…
Its our lifestyles. Were such a rushed society. And its our rushing that makes us use the car, use the fast food use the disposables. And it's the wealth. We have more impact than a latin American family in latin America who all their holidays and vacation time is in the community with their family and friends. And there is something really cool that they don't have to be flying all over the place. As you can see I have a real passion about this.

N3.5 David
I: So how did you kind of decide on that, on the straw bale, did you know about it from work or?
D: well I think because we had been in east Africa for a few years, and when we came back to the states things just seemed so wasteful to us, in terms of what's thrown away. Um, we had a little bit of savings, not as much as we probably should have, but this was early to mid nineties and it seemed like the real estate market al.l across the west was on this steady climb and people like us felt like pressure almost if we should buy something now or we won't every be able to afford to. Plus kind of having sort of a nesting instinct, we had been traveling all over the world and basically an itinerant life style for ten years or more and we were ready to settle down and we had the assumption that you would always do things in the most environmentally friendly way. So we came back to the US and we were looking at the sort of recycled dirt-bag technologies for building a house and the two that we came across that seemed like they might work for us were strawbale building and the kind of earthship homes, I'm not sure if you're familiar with that?
[in response to question about if he does anything else to reduce his environmental impact]
D: Uh, family size? I don't think hardly anybody let's energy use enter into those decisions but…
I: Do you feel like for your family it did?
D: Um not so much energy use as human population in general and environmental impacts. But if we were making those decisions now with awareness that carbon counts are so much higher here, it might give me one more argument on why we should not have any more.

N3.6 Gary

G: I don't like buying stuff. I don't like buying rigs particularly. But over time, transportation and buildings are the two things that I do, and whether I like it or not, and they are enormously intertwined. So I don't think I can build fuel efficient buildings without considering how we transport ourselves around, so my own personal choices have been to always be with smaller more fuel efficient vehicles, so I went from a Subaru Forester to a Jetta because Forester only got like 27 miles per gallon, which is – it's a great car but I knew I could do better, and I didn't want to buy a new one for big bucks. So I've gone to a different fuel. I don't particularly think that hybrids are where they should be yet, although it's not a bad choice. I'm concerned about the Lithium battery parts of it. But somebody's got to do it and I'm glad there are people that have $30,000 to start but I don't, so …

…

G: At any price. But when you go to Europe and you go to Asia, you see – these are the mainstream vehicles. Few people have them but the ones that do have – they'll haul 14 people with chickens. Honestly, that's how the world moves. It's just – I just wonder when you go to a foreign country and you get used to this, you come back here, you cannot believe, it shocks you how big we are as humans here and how big our lives are, huge houses, big trucks, big wide roads, I mean, the world does not live like this.

I: That's interesting.

G: We get used to it. But it ain't the world.

I: Yeah. What would you say is the difference, you know –

G: Resources.

I: Yeah.

G: But we borrow money from everybody else to live fat but it's not our money. That doesn't' seem to be dawning on us.

…

G: So this transportation and buildings things for me has always been a huge, huge thing. And any time the city invests in millions of dollars for an alternative infrastructure that encourages bike-ped, that says to me that they want to get people on their – out of their cars and on their feet, walking and biking or rollerblading, and they're willing to make the investment to do that pedestrian bridge over California Street and other things. So I was thrilled when they made that investment right in front of my blighted building in a blighted neighborhood, and they also put it in because of blight. They wanted to put in an infrastructure improvement that would cause reinvestment, redevelopment. So two of my neighbors who have been living in this blighted area and got to like it thought that when that trail went in, it was going to bring in the riff-raff and the transients so they wanted out, and I said, You're right, it's going to bring in riff-raff, how much do you want for your place? So I bought their place. They were anxious to get out. I was thrilled. Because I really wanted to build – I want to build a neighborhood, which is what these plans are, along the bike-ped trail where I can encourage tenants or owners who wanted to give up a car or two and wanted to live on a pedestrian trail that could take them to the Good Food Store or the Wilma or the University and not have to start a car to do that. And the kind of investment that I'm trying to convince the city to allow us to do there is multi-family, multi-story, higher density for people, not cars, so I'll show you this.

…

G: Well, if you were to downsize, you could potentially get more people parking more people vertically, more people enjoying the bike-ped trail and less footprints for vehicles, or the segway or electric bikes or all the other things that are going to be on line in the next five years that will reduce the size of these parking spots. Or as an incentive, make the darn parking spots smaller so you'll attract people who have – even Prius' are smaller than most full-size sedans – that you'll attract hybrids. Hybrids park here smaller, mini trucks park here smaller. That's an idea. I would like to attract those kind of people. I would love to attract the kind of people who want to rent and buy here that don't even need cars. So what I've asked the City to do is please allow me to relieve myself of your off-street parking requirements by 30 percent so I could remove maybe four of these parking spots, just remove them, and then the burden is on me to attract somebody to live here that doesn't have two cars. That burden is on me. But if I attracted them, like say you and your partner wanted to live here, you wouldn't need a one-and-a-half parking spots. You'd maybe need one.

I: Yeah.

G: That's the kind of people I'd like to attract here.

I: And how did you kind of come to this idea? How did you – what is it that's behind your desire to attract those people?

G: We have to change how we live the city. The very magic of this city will be destroyed if we keep doing developments like this. See what I mean? I don't want to do this because it's so much parking because I think in 10 years everybody is going to look at this and go, What were they thinking? Honestly. So I'm going to put a carport on top of these and have a rooftop garden so that people can garden up above the cars and – but, you know, it's still cars, improve your surface – I'll intercept the rain, capture it and store it but – and it will be nicer to look at than the glare of cars. But this is the way – how do I say this? -- What I'm talking about here that's innovative and unusual and forward thinking has been in Europe for 35 years. It's not new. It's just that we can't bring ourselves to change our paradigm. That's what I find unsettling. I'm not a leader. I'm just following what Europe's been doing because they have less land, more pollution, they have people that walk everywhere, or bike everywhere because that's what they do, and we're not there yet. Missoula is closer than Billings, but Billings gets the green city award last year – two years go, not Missoula, Billings. Have you been to Billings?

…

G: Well, World Watch Institute and many other – a new issue of Atlantic Magazine kind of sums it up – James Fallows who spends a lot of time in China writes about clean coal, and he talks about per capita energy consumption in the United States compared to other countries in the world, and we're just off the charts – off the charts. We have the same or worse quality of life than other countries in the world but we use like five, six, eight times more energy per capita than the rest of the world. I'm thinking, Why? Why should we get so much more when our health, our – the cities, our air pollution, water and air quality aren't any better, really, for the expenditure of all this energy, so what's wrong with this picture? So it makes you realize when you look at – if you were to take the world and distribute energy consumption equitably around the whole world, the United States would have to reduce its per capita energy consumption by 96 percent.

We would have the same energy consumption that an average Kenyon would. Now, that blows me away. If you want equity, you know, if you think that people in South America deserve health and safety and convenience and the people in Thailand deserve health, convenience and safety, which is not an unfair thing to ask for, then our consumption would have to be redistributed around the world would drop by 96 percent.

G: Yeah. Because everybody is talking about, well, we can reduce – you know, global climate change can reduce – let's reduce, what is it? 2525, 100 percent reduction in 25 years. That's nothing. That's nothing. And that's just redistributing the energy that we have now. The expectation of course is we'll always have more, more energy, and I don't think that's going to be very true. So whatever we have now will have to be redistributed but whatever we have 20 or 30 years from now may well be less – if we don't consider redistribution of the energy, I think it will be the single cause for more civil unrest in a while, and the department of defense knows this very well. It's about energy and our reliance on it and our greed to get it that makes us so vulnerable. And I'm not a conspiracy guy or fear of that; I'm just saying that's what the rules are. If you need it, you're going to get it. Or you decide you don't need it as much. I'm just trying to need less.

…

G: So in terms of the house, when I retrofitted it, I super insulated it, put in new windows, R60 on the ceiling, R26 on the walls, 94 percent efficient furnace underneath your feet. I just did – I still have water heater that works, it's not the most efficient but it works, and my consumption of gas to heat water here is pretty negligible. So I'm just hanging on to it until it dies. But I do have two photovoltaic panels on the roof that are back feeding into the grid that reduce my electrical consumption in the summer. So – but I don't really want to go overboard with photvoltaics right now, they're expensive and I'd rather cut my consumption than to create more electricity.

I: That's interesting. That's an interesting choice. Can you say a little bit more about where you're coming from on that?

G: Well, you can save money by sale items or you can save money by not buying anything you're just not needing it.

I: Right. Right. Yeah. And do you feel like that's a better, you know – what makes that a better choice, in your opinion?

G: Just consuming less resources.

I: Yeah, using less.

G: Trying to consume less resources. And raising my own food as much as –

…

G: And then the waste, you know, in my business, 25 percent of the lumbar that typically is delivered to build a new house, 25 percent of that lumbar ends up in the landfill, just waste pieces, knots, twisted bent boards, whatever, they throw that away. I try to take what I can to Home Resources, take what I can to Eco Compost, so I reduce my garbage hauling fees. I try to keep this sequestered carbon, which is a wood resource, in the use stream and not just landfill it or burn it, but that's –n we recycle cardboard, glass, metal, everything we can so I don't have to haul it to the dump. And every Friday, coming up in a coupe of

days, I will go through my neighbors' dumpsters behind my office and empty them out of the stuff that I can recycle. It's just – you wouldn't believe – you should try diving sometime, dumpster diving.

I: Yeah. Well, yeah, I know you're right. I mean, you're absolutely right. I come from a college town where I'm from and it's just ridiculous the things that you can find. Here's a college town too, so I'm sure it's the same.

G: But I've been – I've been to developing countries and third-world countries and when you see what those people live with and how happy they are with nothing and then how unhappy we are, stressed, and we have so much, and most of these dumpsters are air, you have to know they're air, plastic or aluminum cans are air. When you squish them down, there's not much there. Cardboard boxes, paper bags are air. If you were to compress everything down in a dumpster, Ali, it would be like nothing. It would be like the size of a suitcase or less, but it's this big volume because we don't even squish or collapse or compress. If we did that, we wouldn't have to pay for the garbage hauling. But we do because I'm done with this; get it out of the way. God, when is this going to change? I don't know. I'm not trying to make a judgment call but the waste is profligate everywhere you look. Anyway …

…

G: I think I would have to say I was raised on a farm by frugal Norwegians. If they had cash, we would sometimes buy things but mostly we were self-sufficient. We had a farm, we had animals, we had a big garden, we canned stuff, and it was better tasting. It wasn't organic, it was our food, we just called it our food. And since we didn't have a lot of money, that frugality was just always there. If you don't need it, don't buy it. We wouldn't buy it anyway. So I – that's always been with me. My dad always told me to drive like a raw egg between my foot and the accelerator. This is when gas was 19 cents a gallon, because he wasn't making much money, if you punched it or really heavy on the lead, your gas mileage would go down.

…

G: And from that point forward, I just – I decided I would do everything I could just for conservation just to try to find ways of using less so we didn't – and actually reflecting back on that, hydropower is probably the cleanest, really, it's probably the cleanest, most sustainable, most benign energy production options that we have. But when you see the cow butchered, it's not pretty. We all love the hamburger, though, so that was kind of it for me. Buildings and transportation to me, Ali, are just like this. We don't think of it that way in this country but other countries do. So one of the things I would love to do here but I just – I'm having a hard time rationalizing it is photvoltaic panels on these buildings that would charge a new generation of electric cars that are parked here. But photvoltaics are so expensive. And, again, it's producing more. It's always about producing more. And, of course, for sustainability in Missoula, the photovoltaic panel is the icon of green. When you see the amount of buildings, you go, well that's green.

…

G: I'm trying to live in the city, you know, kind of a walkable neighborhood, not out in the middle of nowhere where I have to commute every day. And I fixed up an existing house instead of built a new one, using the body – the materials behind you – behind me, those are salvage, from an old barn (inaudible) constructed, so I mean, I tried not to even use new

wood for anything in this house just because there's so many great things that are thrown away or underutilized. It took me more time to do it but it was okay. I had some time. If people built their own shelters, they would save the money from hiring experienced trades people and they wouldn't have to work as much because they wouldn't need the money to pay for expensive guys, they could build their own shelter. It's a choice.

…

G: But if you were to somehow turn that around so that – well, like the recession is saying, I don't have any more money, what am I going to do? I have to live within my means. I have to cut back, I have to downsize, I have to get smaller. Or, the whole issue of how can I keep money in my pocket? How can I keep my family safe? How can I not spend money? Because if you're spending money, it's to buy something that will have a carbon footprint. But if it means keeping money in your community because you haven't given it – you didn't just put $60 worth of gas in your car, all that money went to Houston to refineries, right, well Houston doesn't need anymore money. But if it kept it in the community because you spent $20 on gas, $40 is now left in Missoula to exchange. That, to me, is a great thing. If we can realize how interdependent we are in our own community with money that you and I exchange, in our own community, and I didn't have to give it up to Exxon. If we could look at it that way, that's energy. Energy is money. Money is commerce. Money is community. Money is – if it's kept in your – you know what I mean? Conservation leads to all those things right here in this community.

…

G: I'm sure nature doesn't necessarily see it that way. And there are a lot of us trying to match – now, globally, trying to match our lifestyle. It would be interesting and sobering to watch how that happens. I'm wondering when this change occurred, do you think? You might be too young for this, but trying to find out when it became okay the metaphor is to buy a Hummer? When did it become okay to have more than one house? When did it become okay to have 6,000 square feet of living space instead of 1,200? That's a question I just keep wondering. When did it become okay to consume more than your fair share? Do you see what I mean? In the past and aboriginal cultures, Ali, there was a shunning that occurred. If you blew it, you know, if you acted out of turn or took more than your share or did something that would threaten or endanger the good of the community or the village, you were shunned, you were pushed away because you weren't fit to live with everybody anymore. And we're not shunning, for good reasons probably we're not shunning, but at the same time we have a tendency to put people on pedestals that – well, like Bernie Madoff – it's a metaphor again for I'm smarter, I'm richer, I'm shrewder than the rest of you, and there are some cultures where that doesn't work. That doesn't work at all. So I don't know. I hope that will change. Somehow I hope that will change.

N3.7 Indigo

R: Well, it's based on permaculture, and permaculture is social and environmental. It's the whole thing. It's a decision-making by consensus and it's living in a very efficient way so that, like they have zones, so like your house is zone 1 or zone 0, it's like that's the center, and then you put things, like concentric circles basically around your zone 0, zone 1 – zone 1 is just basically outside the house – so that everything is efficient. You try to do it as efficient, and they call it stacking function so like the chicken provides eggs but then it also provides poop, and then we take our compost and feed it to the chicken. All those things. Everything is in cycles, nature knows no waste. It's based on that, basically. You use and reuse and reuse and reuse, and we don't throw things away, as much as possible. And we do have garbage cans and we do use – it takes us a long time to fill

garbage cans, which is good. We don't dump on the land, except for compost or like slash, you know, natural materials. And then we're building, you know, what they call swales so – we bought a chipper so we can chip slash and make swales which makes little berms so as water falls – we live on plateau, or table so when the water falls down from the house, it gets caught in these places so it stays wet year round and then we can grow deciduous things, fruit trees and all kinds of things like that. So we can sort of like make a micro environment that's wetter than the average up here, you know how it is, dry during the summer. And then using pray water systems and snow catchment systems and all that stuff. That's part of the whole picture, use what comes on the land, with the land, and reuse it until it's – it gets disbursed, turns into fruit and vegetables, animals, and all that kind of stuff.

…

I: I'm wondering how did you get started, you mentioned your family but how did you get started in kind of this lifestyle of being energy efficient and, you know, you mentioned the gas mileage and your car was important to you, obviously your whole house has a lot of focus on efficiency, I'm interest in how you got started in that whole –

R: Where did that start?

I: -- way of living?

R: I don't know, because – I think it's in my blood to do the efficiency thing because I know I've managed stores and stuff like that and organizations, and that's one of the things I do is get operations down so it's efficient so wasting energy of any kind doesn't appeal to me. So maybe it's just the way I am, I guess. I don't know how to say that but it's just like – I'm attracted to those things, you know, belong to AERO and was on their board for a long time and did all that sort of thing and still involved with them. That's just what you need to do in our lives is to get efficient, use less, dump less, and be happier. It doesn't take money.

I: That's very interesting. Can you say a little more about that kind of philosophy? That's very interesting.

R: I think it has to do with energy consumption, not just fuel, but our personal energy consumption, and it starts from there and then knowing that we're a microcosm of the earth energy, you know what I mean, all those things come in all the systems and universe energy and all those sort of things. But it just – I don't know, it just makes sense to be as efficient as possible. Why go up and down stairs twice when you can carry twice the load – it just makes sense I think. And then for me more and more understanding that energy is physical but it's also – there's other sources of energy that's not physical, like physically – if I mediate and do all that kind of stuff a lot, then I use less energy because my body gets more efficient. And so it just keeps going. And then there's so much energy in the air that we breathe and just understanding all of that and working on it from that angle just makes sense to me. I don't' know if it makes sense to anybody else. And living with other people, you do a lot of things with structure and stuff so that the communication doesn't block energy, you know, if there's a problem, we have a heart council or something like that, and that keeps energy flowing between people because a lot of – to me energy blocking between people is what causes a lot of friction. I'm not going to say that because you might, dah, dah, dah, so you have to get to the point where you're open and trusting that I can say that in the nicest way as possible and have a dialogue about it and have personal growth issues kind of resolved. You

know how it is when you live with people, all that projection, all the stuff we grew up with, you know, people get married and they have all these problems, how about a whole 7 of us. There's a lot of issues –

…
R: If we could not need that much fuel, you know, if we could not have gone global, you know, fighting a war across the seas probably – that whole process began. There was money to be made in the war and they were out to make it at any cost. They didn't know the natural cost. They didn't even think about it. It's not like they went, Oh, let's just go rape the earth, they didn't think of it that way. This is money. So the profit motive kind of, I think, my view, ruined the earth. We could have lived on this earth very happily in a, quote, unquote, lower state.

…
R: . Corporations are running the government. Forget democracy. That's not what's happening. They are driving it. There's TV with all the ads that people want more, you know, so it's like – psychologically everybody's hooked on wanting more, American dream, all this stuff, which means consume, consume, consume, because our economy will fall apart if you don't consume. Bush's statement about it's patriotic to shop. Remember that? I mean, that's like – that's exactly the opposite of what needs to be done. So – and that's one of the things that Women's Voices for the Earth is working on is getting corporations to be responsible, getting them to label their stuff so at least you're not – you know if you're using chemicals that are going to kill you, you know, you know about it. You can make that choice. That's what democracy – voting with your dollars. I think that's where we need to educate people to work on themselves in terms of wanting less or wanting things that are more important than things, relationships, you know, going out and enjoying nature, all the stuff you get for free, it's not – corporations can't tap into your pocketbook for those things. Traveling does not make you happy. Or whatever it is that they want you to buy. Latest clothes or latest gizmo or whatever it is.

N3.8 Andrea
A: We're very conservative on energy [laughs], maybe to a fault. It's funny because we just had an energy audit done, and we were told that of the audits they've done for, I don't know, 50 or so households, we're the lowest consumers and that we use a third of the energy that other households do of similar size and occupancy. So, again, we're a family of 4 in a moderate-sized house and we have the habit of turning off lights and not leaving things plugged in and making sure that when we go on vacation our hot water heater is turned down, and that we have a programmable thermostat and so we utilize that function. And even though my husband and kids are home during the day, that we try to utilize solar – like the passive solar – solar light heat coming in through the windows or – we don't have an air conditioner so we just leave windows open or – so in the summertime open up the windows in the morning, cool everything off, shut them before it gets to the heat of the day, and using window blinds and things like that. So definitely a very conservative approach to things.

N3.9 Maya
I: Okay. Great. And what appealed to you about that house?

M: It was actually built by Steve Loken whose an environmentally friendly builder and it is very energy efficient, and that is what I wanted about it.

I: Terrific. Did you buy it –

M: And it was small and affordable. Yeah, I did buy it about five years ago.

I: Okay. Terrific.

M: I didn't buy it. I traded two houses for one.

I: Oh, interesting.

M: Yeah.

I: To Steve or –

M: Yeah, to Steve. Then he retrofitted the other two houses and sold them.

I: Oh, interesting. So tell me a little bit about your house in terms of the energy use and kind of how you use energy in your house and the features of the house that are – relate to energy.

M: It's just really efficient. The hot water is amazingly efficient, and I don't know why, to be quite honest, because it doesn't look like any more efficient hot water thing than anywhere else but it really is efficient. So we've never run out of hot water. It's just a little hot water heater but I don't know what it is, but I should ask Steve sometime what it is. And it had three bedrooms and two baths and a small, very small, it was on a split lot, so there's not very much yard, and that was important, and my heating bills were about – heat, light, everything about $70 a month so that's pretty good, all year long, because I do the budget billing thing so that's pretty good. So comparatively to other houses I've had that where the wind blows through them, it's really tight and really efficient. And it's also aligned so you get as much sun as you can possibly get, so, you know, it's really efficient. He did a really nice job.

I: Yeah, that's great.

M: And small, which is also something that I wanted.

I: Yeah, that's interesting. So talk to me about the small side of things. How does that come out as important for you?

M: Well, it's always been important to me. I really think that we – one of my theories when I was doing economics was that I believe people should only be allowed X number of square feet to live in. They can have it gold plated if they wanted, but we shouldn't be allowed to just build endlessly with our, you know, to appease a large couch or something. I don't know why people want these big huge high ceiling, open spaced living spaces. I think it's really inefficient and kind of unfair to the rest of the world to think we get that much space to curl up in. And if you ever look at people in a large house – my sister has a really large house, and what's really funny about her house is they have one small room that they basically live in and they have this monster house, and I realized people want to be cozy and they want to be close together but they think they need all this room, which they don't use. So that's my little deal. I think people should live in less space.

…

I: Yeah, sure. Yeah. That makes a lot of sense. That's actually the next kind of series of questions I was – it relates to your discussion of your grandparents and also this – I'm

wondering kind of how you got started being cognizant of energy issues and making decisions that include trying to be efficient about transportation –

M: My background is Scotch so, you know, [laughing] mostly it was money motivated as a child. It was like we saved everything. We're Scotch. That was the original reason why, but I think – and money is a motivator but not a very good motivator for me. I've always just kind of thought of it as funny colored paper. It just doesn't matter particularly. It more matters what you're doing and why you're doing it. So, I don't know. For me, mine is just more like being a good citizen of the earth, you know, kind of thing. I'm from the '60s.

I: That's great. I was going to ask next kind of what keeps you motivated? What started you off but what keeps you going?

M: You know, yeah, right now, like this job and why I'm interested in transportation in Missoula, Montana is because I believe that transportation and giving ourselves over to the oil, you know, realm, as I believe we were kind of forced into, has really changed our communities into something that makes us not be community oriented, and I believe that falling out of touch with your community is what makes people unhappy and continue to just try and consume, consume, consume because they're unhappy so they're just trying to fill something, they're just consuming, that what they're really trying to get back is the thing they gave away and that's a sense of community and belonging, which I believe that you get when you're saying hello to your neighbors and you're getting to know each other, which doesn't happen in a car.

I: Yeah.

M: I say this a lot about riding the bus, when you get in your car in the morning and you're driving to work, you're pissed off at everybody in your way and everything is in your way, the red light's in your way, the person that wants to cross the street is in your way, everybody's in your way, but when you go out and wait at a bus stop for a bus to come by, you check out your surroundings, you see whose there, you get on the bus, you can see lots of people less fortunate than you, you're filled with gratitude, people are not in your way, they're with you on your path to get there. So you just join the sense of community. You have a much better sense of community. You're worried about the old lady that didn't get a seat on the bus and, you know, it's just – you just get into a different frame, mental frame than you do in your car with your little piece of metal around you.

I: Yeah. That makes a lot of sense. And if you're willing, talk a little more about being a good global citizen, kind of what that means to you and where that idea kind of came from for you.

M: Well, I think, for me, what it means is that I really want to preserve the beauty that I've seen. My best example here would be as a child growing up we used to go to Yellowstone and it was a very pristine beautiful place and bears were there and – there were people there but there were not – and there were people in lines in cars but the people and the cars did not overtake Yellowstone. I can hardly go there anymore because there's so much pavement and it's all designed to make cars enter better and I think we gave away one of our world's beauties to the car, for God sakes, when we could have said you can only enter this beautiful pristine place in some – a bus. You may only come in here in a bus and you may come in and go out and you will be led in and led out and

we will let it stay wild, and we failed at that. So I'd like to see us do better than that here. And I've seen a lot of failed communities. Look at Seattle, it's a failed community as far as I'm concerned; beautiful pristine place that they gave over to the car. And it's really hard work not to let that happen because, again, once you get inside your little vehicle and you were promised the open road, you want the open road, you know, we were sold the American dream in the car ads that – the woman with her scarf blowing in the wind as she drives as fast as she wants down the highway all by herself, and that's what everybody wants, and it's an unrealistic vision that was sold to us by the automotive people. And I believe it's caused a lot of real problems in our – saving our earth, you know.

I: Yeah, that's interesting. So for you, would you say the – kind of the natural areas, the preservation of natural areas and this idea of community are kind of linked or –

M: Absolutely.

I: -- separate or –

M: No, they're very linked. Because if we don't live – well, look at Europe. Europe gets it. You live in a community together and you protect your outlying land and they do that because they have to because it's a small space with lots of people. And here we have lots of space with – especially in Montana, very few people – but even though we have very few people, we're being really wasteful with our land. So, you know, it doesn't matter that we have very few people, and that makes it much harder for us to fight the battles of community development and living in dense communities. People are "I'm so afraid I'm not going to have all this land that I really don't want because it's too much work but I think I want it." I mean, I have fallen victim to the idea of going for a Sunday drive out in the woods and thought, Oh, I'd love to live out here, but, you know – I say this a lot [laughing], people forgot to finish that thought, you're not just living out there, you're out there for a minute and then you're driving the rest of your life because you want to come in to go to school and shop. So we should live together and then go out to see our beauty instead of all wanting to live in our beauty. But Montanans wouldn't like that if we tried to regulate that or legislate that or whatever. I guess that's why we need a – you know why democracy doesn't always work for the protection of, you know, what we have that we care about.

…

: Yeah, well, I agree with you. How would you say you learned about energy efficiency or transportation, how do you know about all these things?

M: You know, a lot of it came – well, I would say in my generation, a lot of it we were talking about in school, in science classes talking about – the big thing at the time was the population bomb and the – that was kind of your – my generation is like we can't feed all these people, we can't house all these people, we can't – so that was more what – where I got started. I don't know, it just always made sense to me.

…

I: I'm wondering, one of the issues that of course has to do with energy is climate change, and I'm wondering kind of what your thoughts are on the whole issue.

M: Yeah, we're headed in the wrong direction. We've got to get with it in a hurry. There are a lot of things that need to change that seem so simple that could change to help with climate change, like white roofs. Mostly for me – for me, because this is my work

environment, trains, and people want trains, people want – once they use a bus, they like using the bus. We really – that's a third of the pollution of the problem is transportation. We could cure that very quickly with providing communities with better transportation and connecting communities and –

…

M: Do you ever watch the electric car?

I: Yeah, who killed the electric car? Yeah. That's coming back up again because now GM is actually coming out with an –

M: An electric car.

I: Yeah, a plug in. It's interesting how things –

M: Is an electric car what we really want? Is that all the better we can do? Why don't we have solar cars? But ultimately even if we found the perfect car that, you know, ran more efficiently, you still have to park it, and once you're parking it and you still have to have a place to drive it, and those two things take up a lot of land space and they cause a lot of wasted energy use to get from point A to point B. Even if you do that, that is not the end-all solution. That's my religion.

…

I: Yeah, that's a very good point. And what would you say in terms of kind of the role of government in general with climate change compared to the role of individual behavior change, kind of how do you see those two –

M: Absolutely. You have to have a leader in a country that -- I believe there has to be really strong leaders to motivate people to want to take, you know, your victory gardens; you need to be the kind of leader that inspires people to do the right thing. People do need strong leaders. I think the government – I mean, it can go the other way around, and that's what we're trying to do in this country, like organic foods, you know, people can spend their dollar in a way to force corporations to move to better or more responsible ways of doing things. And we're doing that. It's just very slow and I believe with climate change we really don't have time. We really need a little stronger, faster movement than what we can get through letting the market direct the change.

I: So you would say that there's a strong role for government to push that –

M: Yeah, way stronger role.

I: -- make that quicker change.

M: Yeah. And who's the government at this point but large corporations, so I don't know.

…

M: Yeah, my priorities would be that we should outlaw – no people would not like that – outlaw one acre plots, outlaw five acre plots. Really zone communities so that we live closer together and that we – really get serious about our transportation issues and invest in them and I think we should tax the hell out of fuel so that we can generate enough funding to do something different, and not just tax the hell out of fuel, but we need to – which is very unpopular stance – I believe we need to invest in community and so we – the whole general idea that we don't want to pay taxes – taxes are how we pay to help each other and we need to buck up and quit being so selfish.

…

N3.11 Paul

P: I think there's also a need to reexamine the way that we work together. I heard a really interesting quote, I couldn't tell you who said it, but they said you're kind of calling for the end sort of thing, this is it, we've missed our chance, things are getting beyond saving, this is going to be a bad situation and talking about the end of society. I don't know if I believe in that, that's too much speculation for me. But they said, their conclusion was, maybe when everything breaks down on itself, maybe we'll step back and realize that it wasn't a good idea to build a society off of competition and greed. I think that capitalism has its place because it's worked for a long time. That doesn't mean that it's the best system in the world and I would never argue that it is, but I also am not very quick to start breaking it down and calling out its faults because I don't have an alternative to it. But I think that there is a lot of truth to the fact that we have built our society on people taking resources from other people and recognizing that it creates a cycle, a circle that works pretty well. But there are some people who are always better at taking money from other people, taking resources from other people, and the more resources you have the more able you are to take more money from other people. I think that it is creating a loop that is empowering others over the overall progress of the society itself and so it's in people's best interest to stop progress and keep using technology that we've been using for 110 years when the technology for wind production or solar production does exist.

So it's a balance, it's not going to be easy. But I think that not only do you need to regulate carbon but you need to reexamine the system that got us here and I don't think that's easy and I don't think that's actually going to happen, to be honest with you. But I think that we have to try. So a lot of what we do in our club is we try to run our organization that doesn't thrive off of competition within itself. We think that, we always assume that competition is efficient and the most efficient because the person that is the most efficient wins and they succeed and they continue to produce, you know, until somebody else comes up and challenges them. So the most efficient person is always on top, and that's for every company and they always have the cheapest prices because that's what we value, the cheapest prices. I think that we never ask the question, you know I think that's a really bold assumption first of all, that competition always produces the most efficient outcome. I think that we need to ask that same question of, is it possible that collaboration could produce an even better outcome, an even more efficient outcome. The work that I've done in teams makes me think that, you know, a good team is an organization greater than the sum of its parts. And I think that if we can find a society that can work together, rather than compete with itself internally then there might be a chance that we can be even more efficient than we are today.

N3.12 Joel

J: Good question. I don't know. It is like people ask me "why are you an environmentalist?" and I don't really know. I think basically it is just a progression. For me it is pretty obvious. I think my parents have always been pretty good about just not necessarily… My parents are not environmentalists, really. I am more on top of learning about climate change and learning about…I am probably more interested in wilderness protection which is pretty much unrelated to, slightly related, but not directly related to, energy use. I am more involved in those issues and kind of the activism side of things than they are for sure. But, I think they just have the mindset of you take what you need, you know, and more just because of like economics or the idea that you don't waste things. You turn off the light maybe because it is going to contribute to global warming but just because it will save us money and there is no purpose for the light to be on when we are gone. Therefore, it is just going to waste money and energy and energy is part of that, too, just wasting in general. I guess my parents kind of instilled those baseline values. My

sister would take me out into the woods and "we are going to take water samples of this really weird-looking pond" so I was always kind of in to that because my sister is 6 years older than me. I think she kind of inspired me in that regard. There has always been, for me personally, a connection between the places I care about and what I do; and I feel like, as I learn more, I realized that so many things we do today are harmful to the places I care about. It is not just as simple as "oh, we need more national parks" or "we need more wilderness areas" or "we need to not clear cut everything on the face of the planet." It is not that simple. The problem is within society, it is within our over consumption. It is basically whether you call it greed or not, I feel it is pretty greedy whether or not we put that in perspective or not. Most people probably wouldn't call it greedy. But I guess as I learn more about the connection between what I do and how it makes an impact in the world around me, it just seems to be a natural progression to see that. I guess it is frustrating, too, because at times I feel like a lot of people see those connections and then it is really hard to act on them or people don't even care which is totally different. But for me personally, I guess – I don't even know what the question was….

I: How did you get into being interested in environmental issues or climate change issues?

J: Yeah. I guess climate change is pretty obvious. It is going to affect the whole world. Well, I was just like well if it is going to really impact everything, then I probably better learn something about it. Which is funny, because even the members of [campus climate change organization], which is like the flagship in the climate change club, we don't know a lot about climate change. We are not experts, but it is basically kind of a cult in a way. It seems pretty obvious why I get involved in that sort of stuff and why I care to some extent. I think a lot of people, I don't know, I feel like a lot of people will…there is a lot of hypocrisy that goes on with environmentalists and even the term environmentalist is kind of like uhhhhhh [as in yuck]. "I can't believe you burn coal" but I am going to drive home, I am going to turn on my light and I am going to change my light bulbs but that's just a fraction. And if you look at the energy consumption over time…It started off our energy was like what we ate. Then we discovered fire. Our energy is, so then we burn some things and then we had a house. And then we had indoor heating. Oh, then we find a way to transport besides using just horses or whatever. It was like exponential function. As we get more money, it is more tempting to use more resources.

…

J: I see it is connected, you know, it is kind of like three spheres to work in. There are the personal decisions. I don't know if it is three spheres, I guess. But there is advocacy in the sense of like I am going to go out and advocate. I am going to write letters to the editor, sign petitions, write my representatives to try to make those bigger level policy changes and that is a lot of what UM CAN does and what I have done a little bit, well, a fair amount in the past, phone banking, making calls, annoying people during their dinner. The other way of making changes is personal decisions like whether or not you are going to ride your bike, whether or not…I like what Josh Schlotmick who was an instructor on campus said in one of his classes, actually in guest lecture – I did take one of his classes – but this was during a guest lecture and he said something about like, "you know, you can fight the corporations, not necessarily by going out and picketing," that is important and that type of fight is really important but – and by corporations I mean kind of that whole system of bad that I kind of push into one genre – but what he was saying was that every time you ride your bike, every time you eat a local meal with food from this area, every time you like have a potluck at your house and encourage people to make the food, you are contributing to a better world in that sense. Every time you shop at the co-op or the Good Food Store to some extent or at the farmer's market which is probably the most important, you are contributing to that type of society that you want to live in.

…

J: The coral reefs, for example, I mean more life lives under the ocean than above so if you think about the coral reefs, boom, they are gone. That is the backbone for diversity of our oceans. That is a huge thing. And if that is caused by the acidification because of increased CO^2 levels of our atmosphere, that just seems like that is a huge thing. The bottom line is if that is the only thing that climate change did, I would be against climate change at least, anthropogenically-caused climate change and that is what I believe the primary source is which ties back obviously to our energy consumption and our lifestyle choices and where we are at in society right now.

…

I: What do you think we should be doing about climate change? For example, if you kind of divide the world up into government and policy like you mentioned, individual choices, and say businesses and corporations and what they do, who do you think should be taking the lead on this?

J: Well, I think as I kind of said before, there are both personal choices and policy changes and I look at policy changes as we basically need a revolution. No, ha. I've given up, I'm…I am more excited about the possibility of reinventing a different wheel per se, so I am more into the revolution idea than the reform idea, as in revolution is a new society, reform is changes within society. I think that climate change is a symptom and something else is going to pop up once we fix climate change, if we ever do fix climate change.

…

J: I guess they are inter related, but what I am saying is that I don't want renewable energy to be… A friend once told me that finding the perfect renewable energy source that is 100% clean (I don't think it can ever be 100% clean), super cheap, free, say easily harvest the energy from the sun in a super-efficient manner like this much to supply a city. The analogy is giving a chainsaw to a toddler because now you have given so much power to basically build more, move more, you only want more of all the problems that we have now, is the way I see it. I don't want that. Yes, we should move towards renewables and that is great, but ultimately, energy independence is important but I wouldn't say it is necessarily…it depends on how you go about it. To me a lot of problems don't have technological solutions and I believe this one, energy, where it comes from, etc., does not have one. To me that needs to be reformed at least within society. It just can't be, oh, we are going to find some sort of plankton that helps us out because there is going to be something else. Say everything was super cheap, energy was super cheap, then what is going to happen is that everyone would drive everywhere and all of a sudden you could heat your home super easy, then everyone would get bigger houses because it would be that much cheaper. These restraints that are placed on it, I mean it is good that fossil fuel goes up to $5 a gallon. I would prefer that. I don't personally want that because that is a burden on me but, if it means we reduce our consumption, it is a good thing. So, the same thing is true with a lot of renewables. Nothing is truly renewable. It is taking up space or it is utilizing some energy that the earth is receiving and it can spur increased development which I don't think is good.

…

But you had mentioned a few times that climate change is just a symptom. Whats the bigger illness or how would you describe that? I know you have already spent a lot of time with me so you can give me your 5-second version.

J: It is good that you are thinking about that.

I: It seems like it is kind of related.

J: Yeah, climate change is a symptom as in… You know, some people would identify climate change as the problem. Some people would stop there. Well, what really is the problem? The problem is whatever hurts or hinders us. So the problem is coral reefs going down, no tourism in Jamaica, that is the problem. Another problem is I can't grow rice because sea water is coming in. Another problem is weird weather, you know, tornadoes, hurricanes, whatever. Boom. These are the problems; but, then if you take it back and connect those to climate change then you kind of see climate change as the overriding problem. Then if you think about what is the cause of climate change? Well, the cause of climate change is the fact that we use too much energy and we emit too much CO^2 and other greenhouse gases. So, that is a problem. But, then if you look at, I personally think if you look at that and then look at the cause of why are we emitting these greenhouse gases, then you see that the problem is the way society is formed, the way that, obviously, we have to drive so much, we tend to fly a lot, all of these things, that we just moved in that direction for whatever reason. I have a laptop; it requires energy, I use the laptop. We use computers more than we did 15 years ago. That is just the way we are headed and I think that in and of itself is the root. Obviously, if you trace it back, it is the root. No one can say if you believe there is a connection between people, i.e. CO^2, greenhouse gas emitted whatever, methane, etc. and climate change, then, if you believe there is a connection there, you have to take it one more step and say this is the problem. So, if you look at that and you look at society and you do see that that problem, you know, it doesn't stop climate change, it is within society and therefore, if we want to fix climate change, you shouldn't just attack climate change. We should attack from where climate change is coming from. But, more so than that, looking beyond the cars and the renewable energy, we should actually look at society and say what is wrong with this model? After, climate change, I mean climate change seems huge right now. It seems like the biggest issue as far as like scale-wise goes and mass effect goes. It is one of the biggest ones. But, I guarantee you there are going to be other things, like climate change once we get rid of climate change, I personally think if we were… A good example would be like if we did change, geo-engineer our climate and say we could do it really effectively and really safely, the climate wouldn't be changed but then we would realize, okay, so that we could control the temperature and fluctuations in the weather over a long period of time or the climate somewhat, but say the gasses were still there, so we would still have the coral reef problem. And we would still have whatever the other problems may be. Just like ozone pops up and acid rain and all of things. I guess I am just kind of pumping them altogether. So for me, it is more interesting to think about it that way and it seems more effective to think about it that way.

I: That is very interesting.

J: It is not necessarily easier. Most people, quite frankly, probably don't care about radical reform of society. Most people are pretty content. That's fine but it is a little deeper.

N3.13 Rich

R: But I think gasoline should have at least an additional buck fifty to $2.00 tax on it per gallon.

I: And what are the kinds of costs that you're thinking of when you're – you mentioned if we would internalize all the costs?

R: I think that gas tax pays for new roads, first of all. I think we – Missoula is a great example of this – we build a lot of roads that if we had a little more forethought about how we live and get around, we would not be building developments out in open – what used to be farmers' fields. We'd be creating – and that's one of the things I do in my job is try to create density, because I think density is good for the environment but it's also

good for (inaudible) tax base – I can generate more tax revenue in what I call the downtown with less lubrication of infrastructure, the roads are already there, power is already there, sewer is already there, and if I can fill that space in, grow up, fill in the empty spaces, I can generate way more taxes with less expenditure on the infrastructure, and that's the immediate sense. And then there's the long-term maintenance of that infrastructure. One of the things I try to do is get the city to do a better job of snow removal downtown, safe and clean, and snow touches both of those; tax base and creating a pedestrian place are at the root of everything I do in my job, if I'm going to be successful. And snow in the winter is an impediment to pedestrians. Big time.

…

I: So tell me a little bit about energy use in your house, kind of what are the things you're thinking about, how you make decisions about energy, what are kind of the issues for you?

R: We turn our thermostats – you can go to my house right now and it's going to be 60 degrees, easy. We put in a little gas fireplace in our living room. In the winter, we heat just around the TV where we're sitting before we go to bed. We turn our thermostat down right after dinner, 6:30, 7:00, and it's the only part of the house we heat is where we're watching TV. We did some winterization. We added storm doors to the house, those kinds of things, make sure the insulation is where it needs to be. If there's cracks in the windows, we deal with them. So we try to keep our energy consumption down. Partially, we don't spend the money, but try not to waste.

N3.17 Leo

L: Well, yeah, definitely happening. I mean, it's been happening for 20,000 years, according to the fossil records. Like I said, do I think in the last hundred years of industrial revolution that humans have accelerated it by pumping out greenhouse gases? I think it's pretty obvious that it's true. It's here and we should use this planet, you know, it's like I'm not going to curb my usage because I feel like I'm contributing to global warming. I don't think that – it's kind of like when the settler came to the forest, should I cut down those trees and build a house or not? Should I impact my environment? Yeah, if it makes your life better, you're going to impact your environment. If you need a house, then cut down a tree. (brief interruption to take a phone call)

…

L: I think if you look at the earth from far away, you can't even see what humans have done but look at certain places, especially developing countries, that's – it seems pretty serious in developing countries. Humans are making more of an impact on their environment. So you do see some human caused global warming but like on the geological scale, it's like how much of it? Should we do something about it? Well, yeah, we should probably do everything we can but we still should be a human, we should build cities, dams and make our lives better. I think the billion people in China deserve the same quality of life that we have here. I don't think that we should be able to say, you can't build that dam and you can't have color TVs and you can't drive cars, we're driving cars and you have all the infrastructure that's – it's a double standard. I don't want to give up my quality of life. I'm concerned about it but I'm not going to give up my quality of life for it. It's kind of an honest answer.

N3.18 Lynn

Lynn: Actually, with our kids we do. We are very good about teaching them to keep the doors closed when it is cold outside but we are not overheating the house. We don't use air conditioning during the summer we just go downstairs where it is cooler. And like I said my daughter she has a little electric heater down there and we make sure that she has turned it down at night and that she turns it off during the day. Not only to save money but, you know, there is just no reason and also turn lights off is another thing. We are actually fairly good doing all that, trying not to have every light in the house on but, again, with kids that can be a challenge.

…

Lynn: I would say that, well, I didn't think about energy at all when I was a kid. You know, it just wasn't a front burner issue like it is now so it wasn't anything that our family talked about. But definitely now, you know, it is a lot more on the forefront about making sure that we are doing our best to conserve as much as we can but just like everyone, I'm sure that we could do better. So, I would say just by learning and understanding the issues and as we got older, you know, and implementing what we thought was important, you know, budgeting, and all those things are factors

N3.19 Grant

I: Yeah, like electricity, heat, water, or hot water I guess in particular. Just kind of walk me through how you think about that.

G: Well, let's see…[long pause]

I: Or if it is not very top of mind that is fine, too.

G: Let's see [pause] I guess it would really have a lot more of an effect and I would think about it a lot more if it was something that I was paying separately outside of that. But just because it is bundled in there, I just don't think about it that much.

I: Yeah, that is a good point.

G: I mean I try to turn off the lights and just not uselessly waste energy I guess. But at the same time it is just not as much of a priority because I don't have to pay for it individually.

…

G: Yeah. I think that there is really no need I guess to waste having a light on or having the air conditioning on or the heat on if you don't need it and if that is helping a greater cause overall, might as well do it.

…

I: I am wondering if there are other thoughts you have about climate change or things that you have done in response to climate change that we haven't discussed. I just always like to make sure that I haven't missed a question.

G: Nothing I can think of off the top of my head.

I: That's fine. I like to have kind of an open…

G: I guess overall I think there is a huge opportunity for economic growth with all the technology advancement. I think that is something that more Americans need to take advantage of and entrepreneurs need to take advantage of. All that advancement of technology and all the opportunities that we have in this day and age to grow economically from the advancements.

N3.20 Tony

I: Yeah, that would be great. What is the primary motivation behind wanting to get better gas mileage?

T: I guess it is 50/50: financial and not wanting to waste a natural resource.

…

I: So what appealed to you about the house where you live now?

T: It was the right size and it had a tremendous view. We have always had houses with a good view and this one certainly meets the criteria.

I: Just tell me a little bit about energy in your house. Is it something that you guys think about, or how do you decide where to set your thermostat or that kind of thing about energy use in your house?

T: We certainly are cognizant about that. My wife works out of the home and so a lot of times she is the only one home. So, rather than heat the entire house to a comfortable temperature, she has – I can't remember what she calls it – it is an individual room heater in her office and so she will keep her office nice and toasty but the rest of the house we keep at 65˚ most of the time. We don't really turn it up until we are uncomfortable. So when everyone is finally getting in at night, then we will kick it up. But, we never heat the entire house toasty warm (laughs); we just don't.

I: So, just kind of walk me through your thought process on not heating the whole house, kind of what motivates you on that decision.

T: The same things: financial and not wanting to waste energy.

I: So how did you get started would you say in terms of your two primary interests that you mentioned in terms of not wasting money and not wasting resources, is that how you grew up? How did you come to think about those things?

T: Well, I think the financial one is just the same as most people – well, not everyone – but a lot of people live on a budget so there is no sense wasting money on something where money doesn't have to be spent. So that is the financial end of it. And then the natural resources is just kind of trying to "do the right thing" and not wanting to use energy that you don't need to use.

…

T: Well, I don't know if we should <u>or could</u> do anything about climate change. I don't know if that is even feasible. But, like I said before because we don't know, I also don't think that we should waste anything. Do I think it should be the government that does it? No. Not a chance because I

don't think the government does anything well. I think *if* it was a proven fact that it was fossil fuels and etc., that were causing it, then the obvious solution is to raise the price on gas and then all of a sudden there are a lot of options that become viable because we have more natural gas in this country than we know what to do with and it burns cleaner. We just have to get the right way to dispense it to customers which is the big issue. We already have the vehicles that can run on it. We just need to have a way to get it out to the customers like we do with regular gasoline. So, the price thing works. If it becomes so expensive that there is a market for it, then all of a sudden it becomes feasible for someone to develop it and they will.

N3.21 Ben

B: Because I know, like, the – for example, the parts per million carbon that's in the air right now is a way heightened level than what it used to be and I know that there's – there's people that are actively trying to reduce the amount of carbon that goes into the air every year and like we're trying to do some of that stuff where we live too, like there's a big push towards people to start using carbon capture sequestration technology in their farming outfits and stuff. So you see a lot of people doing that now actually, and I think that's the right way to go. If you can do it, why not? Right now, unless something changes in the legislature, they're actually – the government is actually offering incentives for people to start doing that and incentives for people to burn biodiesel. Right now I'd say I'm concerned about climate change just because they're offering us money to be concerned about climate change.

Nomethetic Quote Table 4 – Social Justice Values

N4.1 Emily

I: So one of the issues that has lots to do with energy, obviously, you know, is climate change, so I'm interested in talking a little bit about that. What are you kind – what's your perspective on climate change? Do you think it's happening? I'm going to guess the answer would be yes.

E: Yeah, I mean, I think it's the biggest environmental, social and moral issue that we've ever faced, and I think what's stunning about it is how – where the science has gone in the last couple of years with every sort of more extreme and the predictions coming true, the scientists are more and more freaked and yet the people's interest in the issue is declined. So, I mean, to me, it's what – it's why I lay awake at night and I don't – I think it's utterly huge and I think it's more than just, obviously, environmental issue. I mean, there's already lots of people dying from climate change and we don't seem to care. So – but actually a lot of people do care, a lot of people have given their life to caring and more incredibly hard on the (inaudible) day in and day out. So it's a – it's so big that people don't want to even contemplate it.

I: Interesting. What do you think is going to happen? What do you think will be the major impacts of climate change and what kind of time scale do you think we're talking about?

E: Yeah, I mean, we've seen them, especially in the last two years, these more extreme weather events, which I think there was an interesting way I heard somebody describe it, if you try to predict forward or any one event, you say is caused by climate change, but if you look backwards and say, if our parts per million of carbon dioxide in the atmosphere remained at 280, will we be seeing these events? And the scientists are not able to say, no. They are able to clearly distinctly say, we are seeing these because of carbon dioxide. But – so, I mean, we're going – there's the more extreme weather. I think the

biggest thing we are going to see in this area is the impacts of less water, especially as you go further south and we're going to see the stress that comes along with when people – when people's lives are up. These are people, people's lives, so – and that's going, you know, whether that's from forest sign or, you know, but I think there's the more extreme – the sad thing about climate change, and I think that's why a number of people actually are really interested in this issue, the work on this issue is because it's the poor people – the people who have less means that are going to be harmed the most. So it's going to be in a lot of countries – it's already happening in a lot of countries where we don't see and I that's I think the people and also (inaudible) things that live there are going to be harmed the most. We could talk for hours about the potential impact, but – it's happening now and we're already seeing impacts, and I think in some reasons we're not seeing them because we're not looking in the right places. We're not in Northern Kenya. We're just not there. And they've had disasters before so to assume that this anything new and different or that we've had – that we're responsible for it in some way, shape or form is not anything – anywhere where people want to go.

…
E: I mean, I think it's just the overall idea that by our greed we're dramatically changing the planet without concern for how that's going to impact people, places, and wildlife. I mean, we just – while the normal workings of the ecosystems can't adapt to the pace that we are changing things, so what you're going to have is you're going to have the have not's have even less and whether that's a bird or whether that's a person who's struggling to survive, those are the have not's. They have no voice and they have no ability to pick up and move somewhere where the water is flowing and the rains are coming.

…
E: Yeah, I mean, there's lots of evidence of individuals having an impact, not just by reducing their own energy use but by – then you need the policies in place that demonstrate that that should work beyond just them. So, I mean, people do have an impact by the choices they make. They influence people in a myriad of ways, whether it's just, Oh, yeah, look at that person just put solar panels on there or look at what cars they've decided to drive kind of thing. And then – but it really takes – it takes the next step of those people saying, Well, how come more people in our community aren't doing this? How can we support low-income people to have more efficient homes? How can we help rental homes, you know, save energy and how can we demand that our electricity company actually allows us to feed energy into the system and paying it? There's – people really do need to get involved. And it doesn't necessarily have to be at the federal level but they need to take the good work they're doing and try to step it up in various ways, whether it's with a neighborhood family policies at other levels, because we don't have time really for everyone to kind of putter around on their own.

…
E: Sure. They fit in my world view. I don't know why we would be so greedy as to not care what happens to sub Saharan Africa. It's just not who I am, so that influences my politics which is –

N4.4 Sonya
I: yeah, what do you think will happen in the future? What are your concerns

S: I think there will be indegenous populations as there already are that will be obliterated. They will have to come up with different ways of living or go the way of many a species. Ah, the drought, I don't see anyway that anything is going to be the same. Climate change measn climate change, wet places could be dry, dry places could be wet. The ocean levels are going to be rising and so ah, I'm not as compassionate to people, besides indigenous people. So our lifestyle affects the melting of the ice caps and so I think its incredib;e and you know the whole oil spill so now people care about the usage of oil because its affecting that areas in the southeastern united statres. And its not until people are truly affected that they

care, but then it's too late. I mean if the water levels are rising. I think ingeneal particularly americs, myself included, is so far removed. Anf in missouls people are complaining that the skiing has gotten worse and I has. We lived here 20 years and the number of days has gotten worse. But Imean that;s pretty…that's why people care. But thenagain here we are driving up to go skiing. I mean we're not chaingin our lifestyle. We're as selfish in terms of the effects as other people.

N4.6 - Gary

G: So it makes you realize when you look at – if you were to take the world and distribute energy consumption equitably around the whole world, the United States would have to reduce its per capita energy consumption by 96 percent.

We would have the same energy consumption that an average Kenyon would. Now, that blows me away. If you want equity, you know, if you think that people in South America deserve health and safety and convenience and the people in Thailand deserve health, convenience and safety, which is not an unfair thing to ask for, then our consumption would have to be redistributed around the world would drop by 96 percent.

N4.11 Paul

I: You mentioned an efficient society. Is that kind of a motivating force for you?

P: And a just society I think, you know. I mean, our energy system is heavily weighted against low income individuals. It's no secret that every refinery that's ever been built has been built in a poor, black, or I guess we should just say nonwhite neighborhood, especially in MT where it tends to be built around areas that are housing indigenous people. No surprise that we are mining uranium on reservations and poor, and more importantly putting reservations where uranium mines are. Um. Because it's land that we don't want, and I think that, kind of understanding the system that you're buying in to by purchasing energy and the impact that has on people. It's hard to forget, it's hard to ignore. I wouldn't say that I try to be too, to push that too much, but I think it's very important to me. And it may be the one thing that I don't talk a lot about but it's the thing that I do care a lot about.

…

P: The second one is not realizing the impacts that are happening in real time from climate change related activities. That's where the social justice stuff comes in you know. Kind of not recognizing that this is a system that is really putting a lot of pressure on communities that are already in bad situations probably because of the situation they were in economically when we started extracting fossil fuels and burning them and working with them. But it's pushing that system even further forward and not recognizing that's really important, er is bad and destructive.

…

P: But I think that it's really easy for me to justify work on climate change from any political perspective but where it starts to break down is when we start talking about the need to balance out the economic inequalities and when we need to reexamine the way that we treat minorities or whether its race or sex or sexual orientation or whatever. I think that if we're not treating people equally than we're going to get back in the same situation. Van Jones is somebody that I think is really, kind of says it well, and he has this green for all, all for green statement he always says that these are positions that called green for all or it's called all for green, I can't remember. He always says "don't put a solar panel on this society cause that's not going to fix our problem." You know, we'll be in the same situation; we'll still have all these other problems. We might not have high carbon emissions but we'll still have toxins all over the place, you know that kind of stuff. I think he's right, he's got a good point. I think that we gotta find a way to make things run appropriately and, I don't know, that's where it gets hardest. To separate that political side that there are a lot of party issues that revolve around treating people differently. Whether its women, which I think are really, you know, I think it's

a very conservative value to think that we cannot regulate business and just let women work with in the workplace and expect to be treated equally. Not because that shouldn't be the case, but because it isn't the case. I think it's especially true when talking about gays and the LGBT community and probably even, and not to mention the fact of just having basic choice over yourself and I don't know if LGBT are paid less overall, I just wouldn't know. I think the woman issue is probably more imbalanced. I think that all comes back to kind of how we treat each other and how we treat the environment. Ultimately. It's a value statement. Do you value the people around you that, the environment around you, the land itself. Yes. Some people do for spiritual or emotional reasons, but I don't. I think you can do that without being tied to the land emotionally. But I think that that still plays out when you are talking about the way you treat one another because it's easy to say that we can take advantage of the land as long as it's not in my backyard but it's always going to be in somebody's back yard. Probably somebody who is poorer than you are. So it all balances. That's where it gets political I think. Climate change itself is so straightforward. I think that's why it's my number one frustration when people just don't understand the science itself. You know. You would think that my number one frustration would be actually the inequality, and the acceptance of inequality. But I get the inequality and the acceptance of it because I know that it's political and I know that it's justified in a manner that seems okay. Freedom, you know. The ability to do what they want to do or what I want to do. But I think that ignoring straight, clear science is really hard to do and unfortunately the evidence is stacking up so strongly that it's kind of hard to ignore.

N4.14 Rachel

But, again, there is Slaveryfootprint.org you can see how much stuff you use and how many slaves you are contributing to online.

I: Aw, interesting. That seems like a good way to do that.

R: Yeah, it is really, you know, because there is like the eco footprint or ecological footprint, you know…and the slavery one I took it and it asks you how many clothes you have and how much you drive…

I: That is interesting like how other people are being treated in other parts of the world. Is that what it is about?

R: Yeah, right. Certain things that you own so you're… consumerism basically. Just like I have a ton of clothes because I thrift store shop a lot, so anyway, I was is really high because like in China, India, or something where a lot of cottons or silks come from or whatever. Anyway, you should check it out.

I: Yeah. That is really interesting. I think that is so interesting because a lot of people talk about like your carbon footprint but I haven't seen anything on that social side, the social impact.

R: It is really well done graphically. Anyway, it is pretty fun as you go through it but I don't think that take into account like second-hand materials.

I: Yeah, your clothes may not have been made in China if they were older.

R: They maybe, it isn't like a lot of vintage clothes but I just feel like if you are doing it second-hand it is less of an impact. Maybe it is not; maybe it is just owning it.

N4.17 Leo

L: I kind of like – like I say, I kind of romanticize that settler life. So maybe I think if I was wealthy enough to do that kind of thing to build a house off of the grid, I think that's kind of cool. Kind of in a romantic sense but not because of, you know, money or saving the environment or anything like that. I kind of have mixed views on what green motives are. I don't see, you know, don't see a lot of pollution here in Montana, not like you might in China, where it's a big, hot button issue right now with all the coal and the low grade high sulfur coal that they're burning there. And all the greenhouse gas emissions, you know, you can't hardly say that humans haven't affected their environment but, on

the other hand, looking on a geologic time scale, we've been global warming for at least 10,000, 15,000 years. We know that because of the fossils we find around here were arctic fossils, you know, mammoths and that kind of stuff, Glacier Lake Missoula and all that stuff, we're definitely in a warming cycle, have been for lots of years. To say whether or not it's accelerated because of human, probably is, there's probably no doubt that it is. Should we curb that? We can't say, Johnny, you'd better curb this, look how we evolved over the last hundred years on an industrial revolution and all the pollutants that we pumped out and we said, well, look what we've done recently, you know, who are we to say to another country and a sovereign country like that that they shouldn't have the same kind of growth, same kind of – maybe with enough growth, they'll see that they have to fix that. I don't know. I'm not directly affected by it so I'm kind of washy on the whole global warming thing.

…

L: I think if you look at the earth from far away, you can't even see what humans have done but look at certain places, especially developing countries, that's – it seems pretty serious in developing countries. Humans are making more of an impact on their environment. So you do see some human caused global warming but like on the geological scale, it's like how much of it? Should we do something about it? Well, yeah, we should probably do everything we can but we still should be a human, we should build cities, dams and make our lives better. I think the billion people in China deserve the same quality of life that we have here. I don't think that we should be able to say, you can't build that dam and you can't have color TVs and you can't drive cars, we're driving cars and you have all the infrastructure that's – it's a double standard. I don't want to give up my quality of life. I'm concerned about it but I'm not going to give up my quality of life for it. It's kind of an honest answer.

Nomothetic Quote Table 5 – Beliefs about government and political views

N5.1 Emily

Do you think that you're political views impact your thoughts on climate change?

E: Sure, I guess in the sense that I come from a – I mean, my political views are very much oriented towards the government is good and it works and it should be operating for the common good and we, as a society, should be thinking about policy that works, so I'm not afraid of policy and regulations and I think it's great. So, sure, it's easy to come up with ideas about how – I mean, it's easier to be supportive of ideas around climate change because it does take that because this nefarious little – you can't see carbon, it's one big sky, it's all those – it's a very difficult issue to try to operate, to put regulations and policy on because of the nature of the problem, but because I don't – yeah. I'm just a socialist at heart, I guess.

N5.2 Crystal

I: ok, um and how would you describe your political views?
C: mmmm, I'm pretty independent. I'm definitely not one party or the other. So I don't really vote party line. You know I just kind of vote on the issues and the areas so I'm pretty much an independent.
I: and would you say that you're actively involved in politics or?
C: I try to be, it's hard to keep up with everything but I try to keep track of what's going on.
…

C: yeah, I think if we can work with the companies, they won't like it but if we can help to see what the toxins are and try to lessen that. And also with the vehicles, I just think it's silly to have a Hum Vee coming around why do you really need that. For me it's minivan and everyone teases me because I don't have an SUV. But you know the minivan does the same thing. It's not as fancy looking but it does decent for gas mileage for what I need. And I don't know, I'm not into the show. And a lot of people I think in California and bigger cities are into the show. And I don't know how you can restrict it. I mean that's all of part of the freedom of America is having that freedom with it. But I think if they were maybe stricter on the car manufacturers then it would all trickle down from them. I don't know how else to do it. You can't force people. That's the hardest thing. And then you have the other side, the republicans saying more government. And then you just have a battle going. You want to try to have a happy medium so everybody's happy. But that's just never going to happen. I don't know, I don't know how you can change it without having some kind of controversy. But I think the little things would be good to do. And just to maybe increase more recycling. I mean even Missoula doesn't have a whole lot of recycling. Just to encourage it. And have people doing it more. And the vehicles. Just try to have them have more stipulation with their gas mileage. So, I don't know.

…

C: I think government is gonna have to just because it's so big. I mean I almost thing, I just don't think uh, I think individuals are too lazy to be honest. I think there are a handful of people or majority of people that want to do something but they are just too lazy. I mean, just like the whole dryer and hanging your clothes. I mean its easier to not do it.

…

I: Do you feel like your political views influence your thoughts on climate change at all or energy issues?
C: I don't think so because I think I'm pretty neutral with it. You know you hear the Hannitys of the world and the Don Potts of the world who are really opinionated on it. My husband is very opinionated on it. So, I really try to listen to them all. I try not to make it a political issue to see the sides and the data of what's going on and how we can help you know everybody. Again, I'm frustrated by how republican and democrat people are and how they're not willing to give. And I think right now that's the problem Each side is so stubborn in what they want to happen or see that they're not giving an inch on either side. And that's when its just bickering. And I don't know, I don't know how to end that or cure that. I don't know that we ever will. But I don't think I'm really that politically one sided to have it that that has an effect on me.

N5.3 Amy

I'm wondering if you would be willing to describe your political views?
I: ehhhhh, um, yeah, I don't really get into that very much, yeah, [pause] and I'm really not happy with the way we're forced to live, being so dependent on the dollar kind of thing, so I just kind of stay out of it, and keep my mouth shut and go along with everybody cause that's how you gotta survive here. And that's about as far as I want to go with that.
A: ok, sure.
I: because I could get really heated and I don't want to do that.

…

A: yeah, interesting. Would you say climate change I something that concerns you or don't think about ti so much or?
I: you know really I don't. I mean what's gonna happen is gonna happen. And I don't think that there is really anything that, I mean I guess the government could impose more laws about how far we can drive to work in a vehicle that uses gas and that sort of thing but it just doesn't seem all that realistic. I mean what would we do, start riding horses?

…

A: Do you have a sense of what you think will happen in the future with climate change or environmental change? What impacts are coming down the pipeline.

I: I honestly couldn't tell you. Like I said I threw out a couple of examples I don't know what's going to happen. I can't even imagine. There's just going to be more laws restricting things I'm sure. What am I gonna do about it? I'm just going to have to obey or go to jail.
…
And you had mentioned you don't want to get into politics, which is perfectly fine but I'm wondering if you think your perspective on climate change or environmental issues is influenced by your political views or?
I: no, nope I'm far more simple minded that that.
A: that's not simple minded.
I: I just want to get al.ong with the planet and our mother earth and that's pretty much my whole political view on energy and climate change. If we take care of this planet she'll take care of us. That's kind of my view on it.

N5.5 David
I: And, I'm wondering how you would describe your political views?
D: Um……(pause)…yeah, I, I get a little fed up with characterizations, but anybody looking at me from the outside would say I'm left liberal to further left than that.
I: yeah, ok. And would you consider yourself actively involved in politics?
D: Yeah, yeah, I mean a lot of people are more actively involved. But I knocked on doors during the last election, kind of get out the vote stuff.
….
I: Um, do you feel like your political views impact your thoughts on climate change at all?
D: yeah, I feel like everyone's political views impact their thoughts on climate change. Take anyone, if you could find someone who has never heard of climate change and the debate about it and their political views and religious views about the place of humans in relation to nature will pretty much determine their position on climate change.
I: yeah its a very politicized issue. It does not seem like it needs to be, why do you think it's ended up being so divisive.
D: Um, I think if you're a, I'm gonna use a political label even though it's not exactly what I mean, if you're world view is conservative, if you tend to view the way things are as good and worth holding on to then the idea of climate change becomes a criticism, It's telling you that what you believe is wrong.
I: yeah, interesting.
D: because people are hurting the planet by doing what you think is good. And if you're looking for change and improvement then that feedback re-enforces your world view, see I told you that was wrong. I don't think many people go beyond that. Like, oh look I told you that was right or no that can't be right.
I: Like, I don't want to change so…
D: here's an interesting thought experiment you could do. I think this is true. If climate change were clearly happening and clearly natural I think those two sides would reverse their positions. The people who now think it is bad thing would probably be saying you know you guys it's just the way it is its natural and we have to adapt to it and accept this. And the other guys would say we got to stop this, we got to bomb the sun or whatever technology needs to do to reverse this. Yeah most of the people are making up their minds based on those things. This either supports or contradicts my worldview.
…
I: yeah, so would you say that climate change is something that individuals can impact or help to reduce where to fall on who should be doing what?

D: When people break it down those individual impacts are so small, basically negligible. I think they can have an influence on what other people do and what policies can be, the early adopters driving change sort of model of changing things. But I think government policy is essential if there is going to be a real difference in what happens to the climate. But, no I don't have any illusions that if everybody drives less and burns less natural gas to heat their house, and eliminate coal. You know it's not going to happen based on individual choices. Individual choices might pave the way to some extent. Ah, yeah, of all the possibilities for having a real impact, government policy has the potential to make the greatest impact and although people in congress will tell you it's just not possible it's way more possible than any of the other options.

N5.4 Sonya
I: Ok, and my next question was how would you describe your political views?

S: Yeah, we're pretty really liberal. My family that I grew up with my grandparents were commies. My great aunt had a parent whose name was Lenin. She subscribed to Soviet Times until there was no Soviet Union. We're not quite that far, Soctt and I. But I was raised in that environment.

I: Ok, and it sounds like you're pretty active in politics?

S: Yeah, well. I don't know would I say that. It's not an easy answer. I mean we're not part of the democratic party. But I've done for Obama, we've done, I got into the schools and we did huge bake sales for Obama. So I've done that kind of thing.

…
S: I mean there are so many people who either are not aware or don't care. I mean for religious reasons or whatever. That there is some…So I think we should be, the US should be following Europe and other countries lead. I guess California is doing better than the rest of us. I think there has to be control, I mean form above….

…
S: So, to answer your question. Yes I think it has to be government started. There have to be regulations tax incentives. I think the government has to something ith public transportation. And in Missoula with the ike pths its ridicuouls. I mean lets all as a family bike to the good food store and then all of a sudden the bike lane disappears. Why are they spending all this money chainging the roads and then not putting separate bike lanes where is safe. There are other countries where you just bike. So I think a lot of that is a lifestyle change that has to be started by the government.

…
A: Do you think your political views influence your views on climate change at all?

S: (long pause) I kind of think they're one and the same. So yes. Um yeah. I think the government should be in charge. There are things that have to be done. I think you can be one way or the other and have different beliefs. But I think for me it came all together so I can't separate it.

N5.6 Gary
G: I keep thinking the federal government looks to local examples. They're trying in D.C. to do something, look at Congress, they're gridlocked on "Don't Ask, Don't Tell," for God sake. They're gridlocked on so many issues because politically it's almost impossible to implement anything. Did you know that even the oil and coal companies were all set to change radically because they thought carbon dioxide emissions were going to be

controlled by the EPA? They were ready to go. These huge coal, oil companies are in China right now because China is doing this, and they're helping the Chinese make some of the most advanced decisions in renewable energy right now on conservation. You wouldn't think that would happen but it is because China snaps – their central government snaps their fingers and says we're going to do 12,000 megawatts of wind over here tomorrow, and they did. They're the largest renewable energy manufacturer and utilizer in any country in the world. We're not even close. We're not even close. And they need everything. They need every renewable, they need every conservation, they need every baby not born, they need all of this and they're still going to lose. It's not going to be easy for them. But we look to them because they can do quicker turnaround with all the stuff.

I: Yeah, because of their government –

G: Because of their government. And we seem to have lost our will. We can't even legislate so the private sector can say, Look, just set the standards. You set the standard, we'll figure out a way to get there. We'll figure out the most cost effective way to get there. But right now because you have no standards, what the hell, we'll just continue to plow through and auger through these resources because nobody tells us not to. That, to me, is government not doing its job. Private sector, I don't know, if you're driven by profit, you'll want to get more. Or you can spend less running your business trying to do both, trying to spend less running my business and hope people will call me for renovation and energy conservation projects.

…

G: Nobody really controls the price of oil. And as a result, if oil costs X, X plus 1 or X minus 1 in the world, then the only control we have on its consumption is what we tax it. And we tax it in Montana. There's state and federal taxes on oil – on gas here. But it's nothing. It's pennies per gallon. All I'm saying is government can ride this tide and slowly increase these taxes so it goes towards conservation, weatherization, infrastructure improvements, then public and private sector really do work synergistically with each other. And when gas prices go down, they shouldn't, then the tax is higher, see, so you can always expect to $4 a gallon for a while. And if gas is 3 bucks, the tax is a dollar. But that goes into weatherization and improving peoples' homes.

…

G: So I think – I think government really does need to lead here. If it's good for the commons, if everybody benefits from something that's well done and well distributed, we all win. And government I think – Exxon isn't going to do that for us. General Mills isn't going to do that for us. Wal-Mart is not going to do that for us. But the government could. The government could say, you know what, all of you are going to be taken care. There's an equity thing here. So I'm hoping for some more leadership here. I've just been shocked by the divisiveness, just shocked. Well what about us? Really. I'm not a Democrat, I'm not a Republican, I'm not a Libertarian, I'm just an American, what about us? I hope that comes around.

…

I: Do you think your political views influence your views on climate change?

G: My political views. You mean whether I'm a certain party, political party?

I: Yeah, or just sort of your political beliefs, your beliefs about government, kind of political ideology.

G: You know, actually, that's a changing animal too, and I don't know enough about politics to put this in context, but some of the old – some of the old moderates from the GOP

amaze me they were so progressive. They were so resource minded. And they've changed. Some of the extreme left wing Democrats are nut cases. So both extremes -- I'd like to take the best ideas from both extremes and meld them so that we'd have a country again, so we can actually move ahead with some confidence, some integrity, so I yearn for moderate Republicans and the old Republican party but I also think that we have to be Democratic and progressive in some of the things that we are changing more rapidly than we know how to deal with. We can't go back but we can't go ahead with thoughtless just because it's progressive; can't do that either. So I'm looking for the strength of the commons. I really want the strength of the commons. I want moderates from both parties to come together and agree that there's common ground. What does that common ground look like? How are we going to get there? And then make the appropriate policies. The country is at stake and a whole bunch of resources are at stake.

I: Yeah.

G: I remember Clinton – this just always struck me as amazing that the national Democratic convention when Obama was being elected, Clinton got up and said -- and if you travel much in the world, you'll see this, he was just crystal clear – he said the world looks to the United States not for an example of strength but for the strength of example. And that just blew me away. The world looks to us, when we're fighting and getting guns and polluting the country, they think that's what they should do too. But when we show them that we can come up with a way that makes better living and doesn't exploit the planet in the process, they think that's a good thing too. China is only doing faster and more efficiently what we've done for a hundred years, so whose going to not use their clothes washer for 30 years so that a Chinese village can have a light bulb? Yeah.

I: Interesting. Yeah. How would you describe your political views?

G: I would have to say I'm progressive moderate, yeah. Again, some of the most inspirational and thoughtful conservation legislation in the United States came from the GOP. I was amazed, looking back. So it's not like there's good guys and bad guys, it's just like both parties have had their merits and distractions. I also come to this conclusion I think sometimes you can be so far to the right, you're actually on the left. Honestly, it's just bizarre.

N5.7 Indigo

R: Look at what's going on what we call our government. There's no governing going on anymore. It's just – I don't know what to do, because it happens at the grass roots. People have to speak up and make changes in their lives and speak up and demand changes in the way we're regulating so that if you use more fuel than you're supposed to, you need to be paying more, through the pocketbook, that sort of thing.

I: I'm interested in you mentioned from the grass roots, and kind of where you – what you think in terms of what the government should be doing versus what individuals – or should and can, you know, how much can individuals do and what should they be doing, how much can government do and what should they be doing, and businesses, where do they –

R: I was going to say that corporations is the biggest piece. Corporations are running the government. Forget democracy. That's not what's happening. They are driving it. There's TV with all the ads that people want more, you know, so it's like –

psychologically everybody's hooked on wanting more, American dream, all this stuff, which means consume, consume, consume, because our economy will fall apart if you don't consume. Bush's statement about it's patriotic to shop. Remember that? I mean, that's like – that's exactly the opposite of what needs to be done. So – and that's one of the things that Women's Voices for the Earth is working on is getting corporations to be responsible, getting them to label their stuff so at least you're not – you know if you're using chemicals that are going to kill you, you know, you know about it. You can make that choice. That's what democracy – voting with your dollars. I think that's where we need to educate people to work on themselves in terms of wanting less or wanting things that are more important than things, relationships, you know, going out and enjoying nature, all the stuff you get for free, it's not – corporations can't tap into your pocketbook for those things. Traveling does not make you happy. Or whatever it is that they want you to buy. Latest clothes or latest gizmo or whatever it is. The question was more or less where do you think change is going to happen?

…

I: Do you think your political views influence your perspective on climate change at all?

R: No, I think climate change has affected my political views. I think the political views – my political views is basically – not anybody but most of the people in the system are outside of real life, sort of like separated it from it, you know, people in D.C. , for instance – this is a generalization – a lot of them, you talk to politicians, people who live there, like their whole world is that political system, but it's not really in touch with what's going on every day out here on the land kind of life. It's a whole lot of winning and losing and all this crap going on. Look at what they're doing with the tax system. It's ridiculous. They should wipe out the tax system and put a progressive, you know, tax thing – forget al.l deductions and everything. You make a certain amount, you pay no taxes on your 20,000, or whatever, and then start taxing from there up, or something like that. It's like so complex and it's such a waste. It's totally inefficient. Speaking of being efficient. So many people in there feeding at the trough. All the lawyers and accountants and all that stuff that really don't need to be there but they make the laws so they feed themselves.

I: Yeah. How would you describe your political views in general?

R: I would say I'm a conservative progressive person. Conservative in terms of things should be efficient and spend as little as possible but progressive in terms of where the social needs are as important as anything. It's really, really important, more important than wars and all that kind of stuff. We need to defend our country not aggressively go out and spend money out there. Just like that shift, so sort of conservative in the old-fashioned way, not in what's being used now, not right wing. Progressive, conservative financial and progressive socially, I guess is the way to put it. It doesn't fit any party anymore. Maybe a natural law party. I've heard of that. I've read their little thing. It fits, they're just not very popular.

N5.8 Andrea

And what do you think about government – you mentioned –

A: Policies –

I: Yeah, policies –

A: -- and programs?

I: Yeah, what are your thoughts on …

A: I think they have a role and, again, should be faster acting and more aggressive. [long pause, lots of thinking] The techno – technology is there to increase fuel efficiencies in automobiles, for example. And automobile makers only do it when they're mandated to do so. So let's not give them the leeway to make this change over the next 5 years, but, you know, the more – as soon as possible, because if you can do it for – I can't even pick a country – but if you can do it for Great Britain, but you're still making your nonfuel efficient cars for China, that's not good. You obviously have the technology, you obviously have the process, so if you had it and you're using it, you need to eliminate the crap. And whether it's United Nations that sets that or, you know, Kyoto protocol or whatever, I'm not sure of the control measures that need to be put in place but I think that standards need to be set and met. And that's where the government could push harder. Thinking about big business, does it create hardships? I don't know, that's kind of in the eye of the beholder. It seemed to create a benefit for people to turn in their clunkers for the cash for clunkers program and get rid of the old cars and that creates a drive and desire for the newer cars that are much more fuel efficient. I think there could be pros and cons to the policies and programs but I do think they need to be more stringent.

I: Yeah. That's interesting the hardship. Are you thinking of hardships for businesses or for the individual – the consumers or both or how are you seeing that?

A: Well, I mean, I could see the arguments for the businesses as well: "We don't have the technology to do that in every plant." This is the one plant that can function at that level. But what are they doing to bring the others up to speed? Are they or aren't they? Are they slowly using the profits from one to – do they have a plan that says over the next 5 years, yes, we're fueling all our plants up to this level of production or because they can get away with it are they leaving it be? So my thought is if you have a plan that says you're going to bring them all up to this level, that's great but if you're slacking, then you should be punished for that. If that creates a hardship for you, it's kind of your own fault. That's my balance that, yes, I can see you have to do it when it's feasible but make sure that you're doing it.

I: Yeah, that makes sense. And what are your thoughts on government standards for individuals versus businesses?

A: How would that apply?

I: Like you're saying, you know, government could impost stricter standards on businesses for the fuel economy, for example, of vehicles, how – what are you thoughts on government having standards for individual behavior as opposed to business – business behavior, I guess?

A: Yeah. I don't know what that individual behavior would be.

I: Like energy use or how much you could drive or what kind of car you could buy or …

A: Well, again, it could be influenced on the business side of things. It's like you can only buy what's available. So – and it doesn't say you have to get rid of what you have but,

again, when that breaks down – I've been thinking about Missoula and kind of the fireplace issue that they did mandate, and that would be I guess an individual program –

I: Yeah. That's a good example.

A: So they mandated the changing or removal of wood burning stoves and I think that's for the benefit of everyone. I've lived in places where there's water restrictions and you can only water on Mondays and Thursdays. And I think it's for the benefit of everyone. It may not be convenient, it may not be what we want, but I think there are certain measures that need to be taken because some people either are naïve, they're going to do what they want anyway, and they need – again, going back to sticks and carrots, some people need to be told what to do, either because they don't know any better or because they would choose to do otherwise.

I: Yeah, that's a good point.

A: Some guidance. Yeah, guidance, regulations, otherwise I think we do have a responsibility to take care of what we've got.

…

I: How would you describe your political views, just kind of basically?

A: Green [laughs, pauses]. Yeah. Very much more liberal and – yeah. Definitely in the left, far to left, but not extremist.

I: Yeah. That's great.

A: If that's general enough description for you.

N5.9 Maya

M: Government has to take over transportation. We have to. We have to invest in public transportation like any other civilization has ever done. It's a utility and that we've decided is to be personalized, which is a silly way to go about it. It forces – well, I could go on and on about transportation because of land use and blah, blah, that we could make a lot of really bad mistakes because of our transportation that we did have in place that we threw away because oil trumped everything.

…

I: Yeah, that's a very good point. And what would you say in terms of kind of the role of government in general with climate change compared to the role of individual behavior change, kind of how do you see those two –

M: Absolutely. You have to have a leader in a country that -- I believe there has to be really strong leaders to motivate people to want to take, you know, your victory gardens; you need to be the kind of leader that inspires people to do the right thing. People do need strong leaders. I think the government – I mean, it can go the other way around, and that's what we're trying to do in this country, like organic foods, you know, people can spend their dollar in a way to force corporations to move to better or more responsible ways of doing things. And we're doing that. It's just very slow and I believe with climate change we really don't have time. We really need a little stronger, faster movement than what we can get through letting the market direct the change.

I: So you would say that there's a strong role for government to push that –

M: Yeah, way stronger role.

I: -- make that quicker change.

M: Yeah. And who's the government at this point but large corporations, so I don't know.

…

Do you think your political view influence your thoughts about climate change at all?

M: Absolutely.

I: How, would you say?

M: Well, I would say I'm a socialist so, yeah. I think my political views definitely influence my – or it might be the other way around. I'm not sure. But one influences the other.

I: In terms of it influences what you think we should be doing about the issue of climate –

M: And how we can do something about the issue, yes.

I: Do you think it influences your initial belief that climate change is happening or –

M: I don't know. Maybe, because I'm more willing to read information. I went to a city council meeting and there was a gentleman there that said it's a huge conspiracy and that there's no such thing as climate change and he read a four-page thing about – and he's a young person – about how there's no such thing and it's a big – so I don't know where I was going with that point but –

I: Because you're willing to read other –

M: I believe I'm more willing to read things that come from environmental science, people that are liberal and open in my mind, liberal and open. I'm more willing to read those than I am willing to read things that come from the right that say, you know, there's plenty of oil and – so I don't read those things and so I believe that – yeah, I believe your political affiliation definitely influences your thought process about – because of where it will take you and what you will read and what you will – the information you'll seek.

…

N5.10 Glen

G: They have tons of capital, government has tons of capital too but it's public capital which is highly scrutinized, and elected officials can change so rapidly and the process of legislation can be so slow and excruciating that I think business, the business community is agile and I think really for widespread change I would have to choose them, although I think government plays an extremely important role to provide incentives, especially tax breaks I know have motivated tons of people to do things, as well as – I think government, and I work in local government, should feel responsible too for setting the tone and leading by example and so, you know, I think that this needs to be on their radar and they need to actively be involved. But if you're asking me to choose sort of – if I had to choose one entity that needs to move this along, I would say probably the business community. Although I think if certain legislation could pass, it would be huge, especially if something like cap and trade, but I don't – for all those reasons I said, because the debate can be so excruciating and the process is so hard to get through, and it's designed that way, I mean, that's the way our political system is designed. And then also because of this pendulum

that, to me, seems to have swung – it swung so far when Obama was elected and now I feel like it's swinging just as far back and we've already followed the cap and trade story. I mean, even passing like the transportation bill, which is far less controversial than cap and trade is, I mean, it's kind of just lame duck right now in Washington. And so I see businesses having to get it done right now.

…

G: Yeah. That makes a lot of sense. I'm wondering if you think your political views influence your thoughts about climate change at all?

R: Absolutely.

G: How so?

R: Yeah, I mean, I'm a registered Democrat. I'm a self-professed, you know, progressive, which is a dirty word – not necessarily, it depends on who you talk to – you just can't read the comments in the Missoulian. Do you read the Missoulian online at all?

G: I do, and I read the comments too so I know kind of just what you're talking about.

R: You can't stop reading the comments even though they just piss me off every day. But, yeah, I feel like that's the vocal minority, honestly, but I tend to pay attention to that. I mean, not just individuals but everyone, I think. I think I kind of mentioned that earlier. But, anyway, what was the question, I guess?

G: If your political views influence your thoughts about climate change –

R: Yes.

G: -- and how so?

R: They do. I mean, because, again, liberal and progressive politics, all of this is part of that agenda, which is another reason why I've identified myself as a liberal or progressive because those are things that I want to see happen in the world. And so, yeah, I will vote based on someone who's going to at least say they're going to push things along.

N5.11 Paul

P: Third thing is inaction in terms of policy. That's the way we've got to solve the problem and with the Obama administration not putting forward a climate change bill in their first three years of being in office and no climate change bill in sight on Capitol Hill, I think we are seeing a lot of young people get frustrated with the political process. Being someone who doesn't really want to do nonviolent direct action, or any direct action, but thinks that we should be able to do it democratically and realizing that we have a government that is just broken down and is worried more about spending during a recession, which spending is always important, being financially responsible important is always important. Maybe not as important as when people don't have work and aren't employed. I think that's something that worries me even more. We're worried about issues that maybe are not even real issues, and yet they've kind of been politically portrayed as the number one issue right now.

…

P: But I think that it's really easy for me to justify work on climate change from any political perspective but where it starts to break down is when we start talking about the need to balance out the economic inequalities and when we need to reexamine the way that we treat minorities or whether its race or sex or sexual orientation or whatever. I think that if we're not treating

people equally than we're going to get back in the same situation. Van Jones is somebody that I think is really, kind of says it well, and he has this green for all, all for green statement he always says that these are positions that called green for all or it's called all for green, I can't remember. He always says "don't put a solar panel on this society cause that's not going to fix our problem." You know, we'll be in the same situation; we'll still have all these other problems. We might not have high carbon emissions but we'll still have toxins all over the place, you know that kind of stuff. I think he's right, he's got a good point. I think that we gotta find a way to make things run appropriately and, I don't know, that's where it gets hardest. To separate that political side that there are a lot of party issues that revolve around treating people differently. Whether its women, which I think are really, you know, I think it's a very conservative value to think that we cannot regulate business and just let women work with in the workplace and expect to be treated equally. Not because that shouldn't be the case, but because it isn't the case. I think it's especially true when talking about gays and the LGBT community and probably even, and not to mention the fact of just having basic choice over yourself and I don't know if LGBT are paid less overall, I just wouldn't know. I think the woman issue is probably more imbalanced. I think that all comes back to kind of how we treat each other and how we treat the environment. Ultimately. It's a value statement. Do you value the people around you that, the environment around you, the land itself. Yes. Some people do for spiritual or emotional reasons, but I don't. I think you can do that without being tied to the land emotionally. But I think that that still plays out when you are talking about the way you treat one another because it's easy to say that we can take advantage of the land as long as it's not in my backyard but it's always going to be in somebody's back yard. Probably somebody who is poorer than you are. So it all balances. That's where it gets political I think. Climate change itself is so straightforward. I think that's why it's my number one frustration when people just don't understand the science itself. You know. You would think that my number one frustration would be actually the inequality, and the acceptance of inequality. But I get the inequality and the acceptance of it because I know that it's political and I know that it's justified in a manner that seems okay. Freedom, you know. The ability to do what they want to do or what I want to do. But I think that ignoring straight, clear science is really hard to do and unfortunately the evidence is stacking up so strongly that it's kind of hard to ignore.

I: Yeah, sure. How would you describe your political views.

P: I don't know. It's kind of hard to relate these days. I would say extremely liberal because I feel that way around other people. But I'm not very vocal about my political views. And if this was not private then I probably wouldn't have said anything about them. But I think that I'm very liberal but at the same time I could care less about party politics and I'm also very fiscally conservative and I'm not too, and fiscally, I mean that I don't like to spend more money than we have. I think you've got to spend your money in the most efficient way possible. And you've got to make sure that you are investing in your future. You know. I think, so, I'm not; I think everybody's that way. I think that it's totally political when you say "the democrats are fiscally, you know, irresponsible." I don't think they think they are, you know. They probably think they are investing in education for tomorrow, you know, that kind of stuff. I also don't think the democrats get it either. They're pretty, do I identify with one part more than the other, it's probably the democrats. It kind of goes back to the social issues. The democrats are the one party that have pretended to stand up for minorities and the inequalities that are faced by women and people of color. Where there hasn't even been an attempt to focus on that from the republican party.

N5.13 Rich

R: I listen to public radio a lot. I watch – I don't watch the talking heads on TV, or I don't listen to them on radio either, either side, but I watch documentary-type programming on TV that I feel like I can trust and get some sense of – I'm not a right wing or a left wing person – I'm just talking about what I know, this is what I know kind of stuff.

…

R: I'm not as opposed to government; this no new government, no new taxes idiocy. Every substantial economic period we've ever had in this country has been driven by government. People railing against how badly the stimulus plan is for us and we're in debt, well, I got news for you, we've been in debt before and what got us out of was the government taking a hand – humans are what they are. And most of us don't think past the day that I have to get through, the pay period I need – in fact, most of the population I think lives pay period to pay period, and they make decisions based on that fact. I was a banker for 27 years, trust me, people will borrow money that they can't afford, as long as they think they can make that payment. Not saving a dime, running the credit cards up, human nature is an ugly thing if let run rampant as a collective – you can't rely on humans – you cannot rely on our capitalist market to run it because they're naturally driven to the bottom line, what does our profits look? I'm going to hire and fire people based on that whether it's right or wrong. I'm not a communist but I don't think, especially bigger corporations should have as much power as they have. They're not making the right decisions. They have no incentive to make the right decisions.

I: Do you think your political views – you're right on track, you're anticipating the questions – do you think your political views influenced your thoughts on climate change?

R: Absolutely. If it wasn't for my wife, I'd probably have run for elective office somewhere. If you do, I'm divorcing you.

I: So tell me a little bit about that in terms of how you think politics and climate change interrelate for you?

R: You got to create the incentive to change the way people do the things they do. If you truly think they want infill downtown and we want to have fewer people driving cars to get around so we don't have to pave more roads, make them wider, you've got to do the things – instead of talk and talk, you've got to walk the walk. It's one thing to just sit here and talk about how wonderful it is to have this utopia but you've got to do the stuff that needs to get done to incent people, direct people – people's actions the way they live their lives.

I: How would you describe your political views?

R: What do you mean? Republican? Democrat?

I: It doesn't have to be a label, just however you think about it.

R: Politicians above the local level are idiots, both sides. I'm a moderate, I guess. I would call myself a business democrat. Without business, we're all screwed, You need a job, you need to pay taxes, all that stuff, but I don't believe in giving the farm away to corporations. I think we need to have as many small entrepreneurial businesses as possible. I think one of the biggest things we could do to incent that is to create a

national healthcare plan. As you go through your life, and you maybe even have that issue now being pregnant, I don't know where you get your healthcare –

I: Well, through school, but I'll graduate soon so it's very top of mind for me.

R: So what you and your husband do when you're getting out of school and you're losing the healthcare that you have is going to have a huge impact on the job that you take and where you will go to work. You will take a job and apply for jobs that you may – don't want to be there. I can tell you I worked for banks for 27 years. If I – I had four kids of my own, and one of the main reasons I stayed a banker was healthcare, one of "the" main reasons so I could provide healthcare to my kids. I hated banking. They're part of the problem in my mind. I don't think they get it, truly. They talk the talk about how they take care of customers but they don't, not really. They take care of the bank's bottom line. That's – at the end of the day, that's all it is. So healthcare would give you the freedom to either, you know, I want to own a woman's dress store, I want to be my own boss. I've got 2 little children and I've got to go to work where I can provide healthcare for my kids. That's the way it is. Absolutely. I think you'd have a lot more entrepreneurial people flourishing because of it. All it takes is one medical issue that's – not even catastrophic – just one medical issue and your whole world comes crashing down. I think everybody has – should have a right to moderate, at the least, healthcare.

I: That's a very good point and a good –

R: And I'm scared to death of having the government make medical decisions for me but not as scared as I am now having some insurance agent or insurance executive making my medical decision for me. At least, governmental wise, I can go to the ballot box and try to change that, but with insurance agent or executive, I have almost no control. I'm not even a blip on his screen.

…

R: Other than I think – I eluded to it the government helping change our culture, our paradigms so that more people realize I should be out walking, biking or taking other transportation. I think it's a tough task, to be frank about it. It sounds like it's probably something you're going to be working on through your life, and good luck.

N5.14 Rachel

I: Do you feel like your political views influence your perspective on climate change or energy issues in general or not so much?

R: I wouldn't say that no. I wouldn't say that my views on energy consumption and anything environmentally friendly, anything environmentally focused, would influence my political decision that way. I wouldn't say that just because I align with a political party means that I am going to directly think what they think about that.

I: That is a good distinction. Where would you say you sit politically on kind of the political views spectrum?

R: I don't know.

I: Well, it is kind of a hard question because it is hard to box in yourself.

R: It is. I would say I am socially liberal. I typically, I don't know, am moderate. But I would be more democratic than I would be Republican definitely. It is hard when you have a public administration graduate student and you learn about some of your frustrations within public agencies and you work for the university system and it is like, oohhh, like some things could be better run in the public sector; but, I would say I am definitely a democrat but I just wouldn't say a liberal democrat necessarily. But I am definitely socially liberal.

…

R: That is interesting. I haven't really put a lot of thought into that. There is a lot of discussion right now, you know, republican debates and stuff about isn't it Mitt Romney that said they wanted to cut a few agencies he couldn't remember one of them. But the one he forgot, wasn't it the EPA or another clean air, anyway, it was one that is environmentally focused.

R: Yeah, I guess the government's first responsibility is to monitor. There should be a balance, it should help balance what is going on and should be checking on corporations to see if their eco footprint is too large. I would leave that up to the EPA to decide that. And investigate claims of environmental justice, things that are going injustice things. So I guess that is where I would place the government's stake in it.

…

R: Cities at the local level should institute recycling programs. I know Portland has one and it would also be helpful, but I am not sure if the government should mandate that products come in plastic rather than glass. But, I know from speaking with other people that glass recycling is really difficult because they don't have a lot to do with the glass. I don't know, that is what I have heard so you should use less glass products. That becomes like a social movement that needs to happen which I think happens in upper middle class or middle class educated people. I don't think it happens on the lower level. I don't think it happens with people in poverty or people who are buying a lot of fast foods or other (inaudible). Anyway, so I guess I just feel there needs to be a social movement to make it better. I don't know that regulation needs to happen really strict. I mean I would follow the regulation and I wouldn't oppose it but I think they have had too much opposition. I haven't thought about it a lot.

N5.15 Liz

I: How do you feel about government, like government regulations on energy use or transportation or –

L: I think it's – I mean, I think it's hard to implement but I think it's a good idea, you know, like when I was – I lived in Turin for a year and I remember in the center of the city they couldn't have – while I was living there they change it so you couldn't have a car that was older than 2000 or whatever, you couldn't bring it into the city or – some cities only let so many cars into the center. I don't know how much that is a green movement as it is just a matter of space. But I mean, I think there are things that the government can do, regulations, per se, like car manufacturers saying, you know, well, you have to have – be meeting these stipulations so that the people that are buying your cars are contributing to a greener environment. I think there are regulations that they can set for companies to meet. I think that would be a big impact if they're setting these regulations and fine – I know that they have done that in some cases. I don't know how much further they can go without – I don't know weird politics stuff.

I: Yeah. Sure. Do you think your political views influence your thoughts about climate change at all?

L: No. No. I don't have very strong political views. I mean, I do but I don't have – I'm more like an individualist, like if a Republican was creating terms that I thought were more in line with my views, I wouldn't mind voting Republican; whereas, if a Democratic was doing the same thing, I wouldn't mind voting Democrat. So I don't think that it has a very strong weight.

I: You're kind of getting into it a little bit now, how would you describe your political views in general?

L: I don't know. I mean, I guess more – I think I'm more on like the Democrat than Republican but I – again, like I said, if they were a Republican that said why I want to do this, this, this and this, and, hey, I really support that, then I'm not stuck one side or the other. I'm not – I don't know. I think my biggest thing with my political view I tend to pay attention mostly to like social reform and education and where they stand on that. I mean, I'm sure it will change as I have a family or whatever, you know.

…

I: And I'm wondering another issue that comes up a lot with energy is energy independence or energy security, like being free from foreign oil. Do you – is that issue important to you or do you think about that at all?

L: I don't know. I mean, I don't know. I feel like it gets into politics and I really am – I don't like politics at all. I would just rather – I feel like it gets too heated and everybody has their own point of view. I mean, I don't necessarily believe that we ever could be energy independent. I think if we really wanted to be, yeah, we could be but I don't – I don't know. I think there's too many politics involved for it to ever really be energy independent.

N5.16 Jane

J: Yeah. I think it's funny because I almost feel like consumers already have taken the lead in a sense. Um, over like business per say. So, I think that maybe the government needs to step up and start setting some examples and maybe putting a bigger message out there. I think it did happen, like the Al Gore climate change discovery, that there was like a movement there but it's kind of declined. I mean, it's out there but ..and then definitely I think, you know, um, maybe big businesses need to be a little bit more energy conscious. I don't really know a lot about it, maybe they are. I know I have heard of new, ah, as far as people building new buildings, new sky scrapers and stuff, there's some new technology to make more sustainable buildings as far as distributing energy and stuff. But, um, yeah, I think again it's kind of like at that lower level. You know, so, the consumers kind of make those changes and make those choices and you know, maybe it will spread from there versus from up-down, bottom-up I guess.

I: Yeah, that's very interesting. Do you think that your political views influence your thoughts about climate change at all?

J: Um, not necessarily because I don't really have strong political views. I mean I definitely may have my own opinions but I wouldn't say that, I'd say I have a fair amount of knowledge about political issues but I think it's more just who I am, like the things that I believe in as an individual versus politically.

N5.17 Leo

L: Well, big businesses, corporate America is the one really driving that. I mean, it's a huge investment in infrastructure to do something like that. So it's got to come from the private sector. I mean, with government support, I mean, so – the talking heads in Washington and Beijing, you know, they put out this we've got to lower our carbon footprint or whatever, but it's really driven by economic factors. That's where –

everything costs money and I think that demand will come from the private sector, the economic factors will drive that.

…

L: I think innovation and technology will take care of a lot of the individual polluting things. And hopefully, too, with – if they build a coal-fired generator and they set these standards, you know, like the Kyoto protocol and stuff like that, and say, yeah, if you're going to build this coal-fired generator, it's going to meet this polluting standard or you're not going to build it. So I think those are good things. I mean, it's nice to live in a place where there's great environment. I think it's important to see the environment has improved here in the last 30 years, just with regulations. Those are all good things I think.

…

I: Sure. And I'm wondering do you think your political views influence your thoughts about climate change at all? Do you think they're related? It's okay if the answer is no. I'm just wondering.

L: Hmm… my political views (long pause) I'm just thinking if it does. No. I mean – no. I'm pretty much mainstream, maybe lean a little left but, you know, I also see the importance of corporations and money, I'm in the business school, you can't help but be a little bit right on some things, too. Political views, I don't really – no, I don't think it affects me.

I: How would you describe your political views? You said maybe a little –

L: Pretty mainstream. I would say not extreme one way or another. Being a student it's hard not to be a little bit Democratic, you know, maybe a little more on the Democratic side than I do the Republican side. Being an atheist, I'm not much of a Republican.

I: That's interesting. That's very tied to –

L: Republican – yeah, right wing. I think they're completely idiots. They base ideology on – you should look at some facts instead of ideology. So, yeah – because of my religious views, I tend to be a little bit more Democratic.

N5.18 Lynn

I: Do you feel like the government should take a primary responsibility in doing things or should individuals or businesses or where do you feel that responsibility or, you know, who would be effective, who should and who could do something?

Lynn: I guess the government probably; there is definitely a role for the government in that respect, of learning about it, trying, you know, and obviously educational settings are excellent places for this sort of thing for just learning about it, scientific data and then there is programs so people are made aware and of what things to do. So I think it is more than one. I think that the government should be involved and also think that universities are very, very important.

I: What would you say the government should be doing, more kind of education, or regulation, or a combination or?

Lynn: I don't know, maybe help funding programs to do research and also to, after the research is done, kind of make people aware of what can happen. Just being able to just help fund programs, that its such an important issue. I guess funding is probably what I would say.

Lynn: I am not super political but I guess just the thought that wanting the government to be involved shows a little bit that there are some politics in it right there. I do think politics are involved in the whole situation.

I: How would you describe your political views or perspective, not necessarily this party or that party, but just how do you feel about government?

Lynn: How can I answer that? Let me just think. I guess, I'm not sure how to answer that. I think I'll skip that one.

N5.19 Grant

G: I think it is great when the government gives incentives for it. For the most part I think it should be an individual's choice. I mean the government shouldn't have some type of enforcement on what type of vehicles you can drive and what vehicles you can't drive. I think it should be up to the individual. At the same time, when the government puts incentives out there where they are not forcing you to do anything and not making it a law but putting incentives out there so people will do it. I think that is good.

I: Do you think your political views influence your thoughts about climate change at all?

G: [Long pause] I guess a little bit. Obviously, in the media there is the connotation that goes with the liberals are more into "save the planet" and the conservatives are more not so worried about it and have coined the phrase climate change instead of global warming and stuff. But for me, at this point I would consider myself pretty moderate so I guess it doesn't really play into it as much.

I: That was actually going to be my next question was how would you describe your political views in general?

G: Pretty moderate if anything more conservative.

N5.20 Tony

T: Well, I don't know if we should <u>or could</u> do anything about climate change. I don't know if that is even feasible. But, like I said before because we don't know, I also don't think that we should waste anything. Do I think it should be the government that does it? No. Not a chance because I don't think the government does anything well. I think ***<u>if</u>*** it was a proven fact that it was fossil fuels and etc., that were causing it, then the obvious solution is to raise the price on gas and then all of a sudden there are a lot of options that become viable because we have more natural gas in this country than we know what to do with and it burns cleaner. We just have to get the right way to dispense it to customers which is the big issue. We already have the vehicles that can run on it. We just need to have a way to get it out to the customers like we do with regular gasoline. So, the price thing works. If it becomes so expensive that there is a market for it, then all of a sudden it becomes feasible for someone to develop it and they will.

I: Absolutely. That makes a lot of sense. Do you think your political views influence your thoughts about climate change at all?

T: Umm, [long pause] I don't know. Probably not. I think that I am independent enough that I can have my own thoughts on that as well. So, I would say no.

I: Sure, absolutely. How would you describe your political views, not necessarily political party but just kind of where would you place yourself in terms of political views?

T: I am conservative.

N5.21 Ben

B: Personally I think the businesses should be taking the lead, just because the industry – when everybody talks about – everybody talks about government being too intrusive and not having to – not being able to regulate businesses as much as they because it harms

free enterprise is really, well, yeah, we already tried that and when we didn't have any government restrictions on you, you basically just turned – you basically just um – I don't want to say – [long pause] I don't want to sound crash [think he meant rash?] here but when governments don't regulate businesses enough, then the theory of corporate social responsibility and corporate environmental responsibility just sort of goes out the window because they say, well, if they're really not telling us what to do, we really don't have to do anything that benefits anybody else. And I feel like if they would just do that just because, then that might change some peoples' opinions, because right now the only thing I see is, well, you tell us like businesses only do what they have to to meet certain restrictions and otherwise they just do whatever is easiest.

…

I: Sure. That's a good point. I'm wondering if you think your political views influence your thoughts about climate change at all.

B: Yeah, I would say that my political views do, especially in this new legislature that just took over in the state, because I've always considered myself a pretty moderate and this new resolution that they just passed in the house saying that climate change is not beneficial to Montana's economic conditions or – I can't remember the exact literature that they put it in – but basically said we don't have to agree with what the EPA says about climate change and global warming because it's not good for Montana business so we're just going to nullify it.

I: Wow, interesting. I didn't know about this.

B: I don't necessarily agree with that because, again, that's not helping – that's not helping our – the green businesses get any traction, like my brother's biodiesel business, because that just says, oh, we can go back to the old way of burning fossil fuels and not abiding by EPA restrictions, so we don't have to – we don't have to give any more funding to the green businesses or give any incentives to people that actively trying to reduce their carbon footprint or anything like that.

I: Sure, that's a good point. I don't know about that. How would you describe your political views? You mentioned being kind of moderate – how would you –

B: Fairly moderate, either – it's somewhere in the middle. I don't affiliate with one party but I usually like either a – like a very conservative Democrat or maybe a moderate Republican. Whoever is level-headed enough to know that you can't be a hard-liner to either side. The extreme right is just as crazy as the extreme left, and that's the way it always has been. I feel like there's a big push to move people away from the center and get them on opposition and that's – I don't think that we'll ever get anything done if nobody is going to be able to be in the middle of the road.

Nomethetic Quote Table 6 – Beliefs about Climate Change

N6.1 Emily

So one of the issues that has lots to do with energy, obviously, you know, is climate change, so I'm interested in talking a little bit about that. What are you kind – what's your perspective on climate change? Do you think it's happening? I'm going to guess the answer would be yes.

E: Yeah, I mean, I think it's the biggest environmental, social and moral issue that we've ever faced, and I think what's stunning about it is how – where the science has gone in the last couple of years with every sort of more extreme and the predictions coming true, the scientists are more and more freaked and yet the people's interest in the issue is declined. So, I mean, to me, it's what – it's why I lay awake at night and I don't – I think it's utterly huge and I think it's more than just, obviously, environmental issue. I mean, there's already lots of people dying from climate change and we don't seem to care. So – but actually a lot of people do care, a lot of people have given their life to caring and more incredibly hard on the (inaudible) day in and day out. So it's a – it's so big that people don't want to even contemplate it.

I: Interesting. What do you think is going to happen? What do you think will be the major impacts of climate change and what kind of time scale do you think we're talking about?

E: Yeah, I mean, we've seen them, especially in the last two years, these more extreme weather events, which I think there was an interesting way I heard somebody describe it, if you try to predict forward or any one event, you say is caused by climate change, but if you look backwards and say, if our parts per million of carbon dioxide in the atmosphere remained at 280, will we be seeing these events? And the scientists are not able to say, no. They are able to clearly distinctly say, we are seeing these because of carbon dioxide. But – so, I mean, we're going – there's the more extreme weather. I think the biggest thing we are going to see in this area is the impacts of less water, especially as you go further south and we're going to see the stress that comes along with when people – when people's lives are up. These are people, people's lives, so – and that's going, you know, whether that's from forest sign or, you know, but I think there's the more extreme – the sad thing about climate change, and I think that's why a number of people actually are really interested in this issue, the work on this issue is because it's the poor people – the people who have less means that are going to be harmed the most. So it's going to be in a lot of countries – it's already happening in a lot of countries where we don't see and I that's I think the people and also (inaudible) things that live there are going to be harmed the most. We could talk for hours about the potential impact, but – it's happening now and we're already seeing impacts, and I think in some reasons we're not seeing them because we're not looking in the right places. We're not in Northern Kenya. We're just not there. And they've had disasters before so to assume that this anything new and different or that we've had – that we're responsible for it in some way, shape or form is not anything – anywhere where people want to go.

I: That's interesting. Yeah. Where would you say you get most of your information about climate change? You get so much information –

E: Yeah, I mean, I get a ton. You know most of it is off the web, not necessarily just little news articles but it's available on the web somewhere, so I do get a lot of stuff from blogs. And journal and newspaper articles, printed media. But I don't – I don't watch TV so I don't get that angle of it very often, even documentaries and movies I don't see very often, so it's mostly print and internet.

I: And what would you say kind of are the top of the mind biggest concerns for you about climate change? You said it keeps you awake at night. What are the kinds of things that are most concerning to you just on the top of your mind?

E: I mean, I think it's just the overall idea that by our greed we're dramatically changing the planet without concern for how that's going to impact people, places, and wildlife. I mean, we just – while the normal workings of the ecosystems can't adapt to the pace that we are changing things, so what you're

going to have is you're going to have the have not's have even less and whether that's a bird or whether that's a person who's struggling to survive, those are the have not's. They have no voice and they have no ability to pick up and move somewhere where the water is flowing and the rains are coming.

I: What do you think we should be doing about climate change?

E: A little bit of everything.

I: It's hard to ask you these questions because you know so many things. For many people it's like, well, I don't know.

E: I mean, it's on every different level. What I've worked most on in the last 2 years is been trying to come up with a strong policy at the federal level that would require us, as a country, to move in a different trajectory, move off of fossil fuels and basically treat carbon as a pollutant and make it more expensive so that people start becoming more efficient. You build in policies that allow for there to be some buffers for low-income people or they can get money back from these systems and so we should have a national climate and energy policy that takes us in a radical different direction. And even though it failed, our ability to do that in this past senate has failed and now I don't know when that will come back up because things are changing in D.C., I still think that that – it was what we really needed and it's still we really need it because it's the only way that the international community was going to start taking the issue seriously, even though China just surpassed us in the amount of energy that they use as a country per capita, and if you look at historical the load in the atmosphere you know how much is up there, it's all because, you know, it's mostly because of us. So I still think that the federal policy, which was building off of what states have learned and what individual communities have been successful with is still what we need. I think what we're going to get is, you know, incremental better policies because people start caring more and demanding out of their communities. So, you know, we should be doing things on the local level, individual level, you know, and it should build up from there. It's a big enough problem that you can't just say that entity is going to fix it.

I: Sure. Where do you think individuals could (inaudible) climate change? Do you think they can have an impact?

E: Yeah, I mean, there's lots of evidence of individuals having an impact, not just by reducing their own energy use but by – then you need the policies in place that demonstrate that that should work beyond just them. So, I mean, people do have an impact by the choices they make. They influence people in a myriad of ways, whether it's just, Oh, yeah, look at that person just put solar panels on there or look at what cars they've decided to drive kind of thing. And then – but it really takes – it takes the next step of those people saying, Well, how come more people in our community aren't doing this? How can we support low-income people to have more efficient homes? How can we help rental homes, you know, save energy and how can we demand that our electricity company actually allows us to feed energy into the system and paying it? There's – people really do need to get involved. And it doesn't necessarily have to be at the federal level but they need to take the good work they're doing and try to step it up in various ways, whether it's with a neighborhood family policies at other levels, because we don't have time really for everyone to kind of putter around on their own.

I: Do you think that you're political views impact your thoughts on climate change?

E: Sure, I guess in the sense that I come from a – I mean, my political views are very much oriented towards the government is good and it works and it should be operating for the common good and we, as a society, should be thinking about policy that works, so I'm not afraid of policy and regulations and I think it's great. So, sure, it's easy to come up with ideas about how – I mean, it's easier to be supportive

of ideas around climate change because it does take that because this nefarious little – you can't see carbon, it's one big sky, it's all those – it's a very difficult issue to try to operate, to put regulations and policy on because of the nature of the problem, but because I don't – yeah. I'm just a socialist at heart, I guess.

I: Those things are okay.

E: Sure. They fit in my world view. I don't know why we would be so greedy as to not care what happens to sub Saharan Africa. It's just not who I am, so that influences my politics which is –

I: Yeah, that's interesting. Are there things that you've done in response to climate change that we haven't discussed, either behavior changes or other things you're doing that you feel like are important that I've missed?

E: Yeah, probably not. I do a lot of the educating on it just because it's part of my job, you know, whether it's – and try to get people to be a little more interested in it, and then, you know, at the same time, here it's easy to be all doom and gloom because you just asked me for my honest opinion but that's not how I frame it when I talk to people because that doesn't really get you very far. So I mean a lot of what – in working on the issue and trying to get people interested is talking about the positives of economics and sort of building renewable energy jobs, and you end up talking about stuff that's not as close to your heart but is what we need to talk about.

I: So one thing I'm interested in is how people are responding to how climate change might change Missoula so, in other words, kind of very personal impacts, and so you, I'm sure, are already very aware of this, there have been studies by Steve Running and others that suggest that the summer of 2007, which I don't know if you remember that, it was the last really hot fiery summer that we had, but that summer might be more typical of what it would be like here, you know, with more river closures, closed to fishing, no campfires, smoky, and all that sort of stuff, and then winter where there's much less snow and more rain, and so I'm interested in how those – if that were the way it's going to be, how that would impact you?

E: Yeah, I hated that summer. I think – actually I think these cool summers we've had, I think we would have a climate action plan in Missoula if we hadn't had such nice summers and snowy winters. I really do think that the city itself – I mean, people are kind of aware of the bigger picture and stuff but it does somehow take personal suffering for people to actually say Okay, yeah, I want to be part of the solution, so the fact that we've had no smoke for three years now, I think has set back our efforts to actually change – although I loved those summers. I think it – yeah, I live here because I want it be – I hate hot weather, which is another reason I work on this issue, I don't like it to get over 75, and I want to be able to – I want it to snow. Not everybody in Missoula is like that, though. A lot of people love the 90s and a lot of people – maybe not 105 – a lot of people don't take advantage of the snow and outdoor recreation. I don't think – they don't also necessarily recognize the shifts in our watershed when you lose white bark pine, you know, all those interconnected ramifications of some of the climate impacts. It's probably not going to be until it's too late before we learn some of that stuff. You know when whitebark pine is gone.

I: That's interesting. So do you think if were going to be like that, would it change – if it were going to be like that all the time in the area, would it change your – what you do?

E: Oh, yeah, I think every year we kind of save the month of August to maybe we'll go vacation somewhere else, maybe we'll go to the coast, but we haven't had to yet. I think it would change – I would spend – I would try to get out of Montana in the summer for some chunk of that smoky, hot stuff.

Yeah, so then you're doing just what you don't want to do, you're traveling. We'd like to be in Montana so you're spending carbon to go somewhere just to stave what you don't want to be here.

I: Yeah.

E: I think it would affect it. I mean – yeah, I don't know – Missoula really heads towards Phoenix-like conditions, I wouldn't live here. I don't know where else to live but

N6.2 Crystal

So one major issue that has to do with energy is climate change. So I'm wondering what are your thoughts on climate change?

C: um, I'm kind of in the mix of it. Um you know I think the climate's always been changing but I also think that you know more people, more blacktop, more vehicles, I definitely think that's its having an impact on it. But like I said I'm kind of on the fence with it because I think with evolution and just things changing. I think it was going to change anyway. But I just think how can people not be impacting what's going on I the world. There's more and more people and more and more cars and more companies and factories and all of that stuff. So it's hard for us because I think we take it for granted with the family and driving around and what we have to do to get around. I don't know I think I'd be less vehicle if I didn't have the family. I mean definitely. I mean partly for the environment but partly to be selfish and not have to spend money on it. The amount of money I could save for oil changes and gas and all that, and plus I'd be helping the environment too. We recycle cans for sure. My dad drinks beer and he brings it and calls it my kids college fund. But all of his friends and everybody brings it to us. Because again our friends think it's silly to recycle because you don't get that much for it. But we recycle all our cans and anything we can do, we help with that like recycling.

I: so that's interesting you do it for your friends and family. That's cool. So would you say you are concerned about climate change?

C: um, I'm not sure. I mean I'm definitely concerned with but I don't know how much we can change it. I just think that people are the way they are, I don't if, I mean I'm concerned but I don't know how much we can change it I mean it's going to have to be a long process to be able to have people thinking about doing things differently. I mean you have all those big SUVs and big hunting vehicles and all these things that people are doing all the time. I have no idea how people can afford that. I mean in big cities I have no idea why you would do that I mean I definitely would commute if I were in a big city I mean use a train or a subway. But we just don't have that here. So I don't know I mean I just think people are too selfish to give up those luxuries.

I: yeah, that's interesting. And so what do you think will happen with climate change what are you thinking might be the future?

C: I don't know. I really don't I don't know how fast it's gonna go. I mean I definitely think it's going to be affected I just don't know how much. I mean the glaciers are going and I don't know. I don't know how much I'll see it in my lifetime, It's a slow process happening. I really don't know.

I: and do you have thoughts on kind of particular things you expect to change vs other things or?

C: um I think the landscape probably is the most you know with the glacier and the different things. And I think more and more people will change I don't know about the earth itself but I think that people will change with more regulations and stricter things with companies and vehicles and that kind of stuff. I mean it would be nice if we did have vehicles that you know we had companies that had to do better mileage, I think people would pay a little more for better gas mileage and I know they've been talking about it with the administration that they have to have so many miles per gallon on a vehicle before they could sell it. And you know I wouldn't be opposed to paying a little more to have better gas mileage.

I: Yeah, that's interesting. So that actually leads really well into what my next question was. What do you think we should be doing on climate change if anything? What are your thoughts on that?

C: I think we definitely need to try to change some of the pollution and some of the recycling and that. I think part of it is going to happen just because of the climate changing and the normal natural phases but I definitely think if we can work with, because I think the vehicles are the main thing and companies. We were working with stone I think to make the smoke or whatever I don't know.
I: Smurfit Stone?
C: yeah, I think if we can work with the companies, they won't like it but if we can help to see what the toxins are and try to lessen that. And also with the vehicles, I just think it's silly to have a Hum Vee coming around why do you really need that. For me it's minivan and everyone teases me because I don't have an SUV. But you know the minivan does the same thing. It's not as fancy looking but it does decent for gas mileage for what I need. And I don't know, I'm not into the show. And a lot of people I think in California and bigger cities are into the show. And I don't know how you can restrict it. I mean that's all of part of the freedom of America is having that freedom with it. But I think if they were maybe stricter on the car manufacturers then it would all trickle down from them. I don't know how else to do it. You can't force people. That's the hardest thing. And then you have the other side, the republicans saying more government. And then you just have a battle going. You want to try to have a happy medium so everybody's happy. But that's just never going to happen. I don't know, I don't know how you can change it without having some kind of controversy. But I think the little things would be good to do. And just to maybe increase more recycling. I mean even Missoula doesn't have a whole lot of recycling. Just to encourage it. And have people doing it more. And the vehicles. Just try to have them have more stipulation with their gas mileage. So, I don't know.
I: yup. Do you feel like individuals could reduce climate change by changing the way they behave or that government would have to act like working with auto manufacturers, or that businesses should take the lead or where do you kind of sit on that whole thing?
C: I think government is gonna have to just because it's so big. I mean I almost thing, I just don't think uh, I think individuals are too lazy to be honest. I think there are a handful of people or majority of people that want to do something but they are just too lazy. I mean, just like the whole dryer and hanging your clothes. I mean its easier to not do it.
(had to take a phone call)
I: No problem, they're important. So where would you say you get information about climate change? From the news or?
C: The news and the web I mean I'll look at some of the stuff and do the pros, the believers and non-believers, and again that's where I think I'm an independent because you have to read some of that and have your personal interests with it to. You know one of the students said 'oh you're one of those people' because I was not 100% behind it. And I'm like well I don't know look at the Ice Age and this was Lake Missoula before. I just think that some of it is just natural. But I definitely think that we're a part of ti too. I just don't think it's 100% people. But she was like you're one of those people' and I was like well I guess but I'm not saying that it's not real. And I definitely think that we can stop it, well I don't know stop it. But lessen it. But I just don't know how much the American people are willing to do it. Like I said I think there lazy with it. It's easier to get a big rig if you want to you know. I just think that slowly we have to try to educate people and the green and the bottled water. When we camp we recycle and have one bottle a big jug for indoor cooking and then we have the big blue jug for dog water and different water and we just recycle that water. And we use the crick water if we want to bath and that kind of stuff and putting fire out. And a lot of the people we camp with get bottled water. Just because it's easy. So I don't know.
I: it's like a whole lifestyle with you it sounds like?
C: yeah, I agree. It's easier to do ti the other way. But I have a container of water that we out in the fridge and we have our own water bottles so we just fill up our own bottle. And it's not that difficult but to some people it is. I think I do a little but. We could always do more but we try to recycle and be efficient with our energy. I don't know.
I: that's interesting. When you were buying your efficient car or all the things your doing in your house, did you think about climate change at all or did that come into your decision process either way?

C: not really to be honest. I think eventually it does but that was not my immediate thought. I think eventually it does. But even like with recycling, I don't know if that's my immediate thought. I think its in the back of m head because I know that every little bit helps but I don't think its like oh I better do that for climate change. So, I don't know. I don't think that was forefront. I think ultimately that's part of it but it's subconsciously.
I: yea , interesting. What about energy security or energy independence. Is that an issue for you at all or?
C: oh yeah, I think about that especially the off shore drilling and what happened. You think about that a lot. I mean my sister used to live in Alaska and the big rigs their talking about on highway 12. I definitely think we need to be more independent. But I don't know the solution. I don't know. Is off shore drilling the way to go. I don't know. We're getting oil from other oil from other countries and is that really the way we want to go? I don't have an answer. I really don't. It's I don't know.
I: What would you like to see happen, I mean
C: I would like to be more independent
I: either for climate change or energy independence or energy in general, where would you like to see us go?
C: I don't know enough about it but some of the nuclear stuff they were talking about. I know that's a big investment. And I don't know how safe it is or any of that. But I mean if we could put the money like Obama did with the stimulus but then we have our security that we're self sufficient with it. And like with the vehicles, if we could do ethanol or electric vehicle. I think we should still be supporting those kinds of research and ideas to be able to do that. I just, I don't know have a good answer.
I: that's fine, neither does anyone else. But those are good what you've already said.
C: I just don't know I definitely think we need to quit relying on other countries but I just don't know how. I definitely don't have the end all be all opinion of what we should do. I'm pretty flexible with it. If it works for people. If we have to put more money into it if it's the government or taxes or whatever we need to think about that and be more self sufficient for sure.
I: yeah, interesting. Do you feel like your political views influence your thoughts on climate change at all or energy issues?
C: I don't think so because I think I'm pretty neutral with it. You know you hear the Hannitys of the world and the Don Potts of the world who are really opinionated on it. My husband is very opinionated on it. So, I really try to listen to them all. I try not to make it a political issue to see the sides and the data of what's going on and how we can help you know everybody. Again, I'm frustrated by how republican and democrat people are and how they're not willing to give. And I think right now that's the problem Each side is so stubborn in what they want to happen or see that they're not giving an inch on either side. And that's when its just bickering. And I don't know, I don't know how to end that or cure that. I don't know that we ever will. But I don't think I'm really that politically one sided to have it that that has an effect on me.
I: yeah, that's interesting. So one thing that scientists will say happen with climate change, we actually have some studies of what will happen here, maybe because we have Steve Running here or I don't know but we have some data or predictions of what might happen here. And some of the things are like, were you here in the summer of 2007? It was the last really hot summer we had, really smoky and hot. They way that summer was is some of the predictions of what we might have in the future. Like river closures and smoky days and fire and that kind of thing. You mentioned that you did a lot of thins outside. Do you think that summer influenced your decisions about what to do, or do you think that would influence kind of your quality of life or things you like to do?
C: yeah it definitely did. Because we like to, like said fish and there were some rivers that were closed and that effected us for sure that year. And we camp. And you know the kids especially they like the smores and fire.
I: oh right, campfires.
C: mm hmm and so you know if its that hot or dry out they don't let you have them. And we're pretty caution with it whether its green grass around there or not. We always have a bucket of water and out the fire out before we go to bed but you know it's a bummer. And our kids don't kike to go if we can't have a

fire. And fishing too that's a big thing. And the snow. Steve Running is saying we're not going to have any snow anymore in Missoula. And that's a bummer. Because part of the outdoor recreation for us in the winter is sledding and doing that kind of stuff outside. And my husband is a hunter and there has not been that much snow for the animals. And I think it just affects the whole gamut of things. You're not fishing because the fish are begin harmed with water and the hunting is going to change too. I think it's going to be a while culture change.
I: interesting. So do you think that would impact like where you would want to live or would it make you change your behavior significantly, or make you change your life or how would you respond if it was always going to be like that summer or the winters with no snow?
C: Hmm, I don't know I haven't really thought about that. I don't think we would move to be honest. Just because of jobs and family and but I think it definitely would affect us in what we would do. Just because we couldn't go fishing as much or the same places. We might have to go out of state and pay more. And that means traveling and all of that. But I definitely think ti would affect us and our recreation. If some of the mountains are closed too. I definitely think it would affect us. But I don't think we would move. I think it would be more for financial reasons or personal reasons. But I think we might get frustrated with ti and maybe do traveling more to places that do have the stuff we enjoy but I don't think we would move over it.
I: yeah, that's interesting. Is there anything you think I've missed in terms of transportation or energy issues, or climate change, or energy issues that are important to you that we haven't talked about?
C: I don't think so. I just think it's a slow process and I think it's gonna be I don't know I think definitely will see it and my kids will see it. I don't know how fast it goes. It depends on how many people participate and help out with things you know. And world catastrophes that happen. I don't know I think you hit them all.
I: ok, with world catastrophes do you mean like weather events?
C: Yeah like the flooding and the hot that thye had its just so different so up and down. Texas was just so hot and then they had snow in Ohio when we had none. The weather patterns are just so bizarre. How is going to be in another 10 years, I don't know. You don't know how to predict it and I dno't think they know.

N6.3 Amy
So one issue that has a lot of do with energy and comes up in the news all the time is climate change.
I: mmm.
A: so I'm interested in your thoughts, what do you make of the whole issue.
I: You know, I don't know a whole lot about climate change. Um, well that's the new word for greenhouse effect is it not? Yeah, you know they say (pause) I just, I guess I don't know what to believe because there are always different theories, they're always coming up with a new theory. And I don't think anyone really knows what's going on, or what's happening. I mean I know, yes the planet is changing. But that could be just natural evolution. I know that we're contributing of course with our emissions and pollutants to some degree. But I don't think anyone really knows to what degree. And, you know but I know that it does have a hazardous effect on it and that's why I try to do what I can. But I don't run around preaching to everyone. Because everyone is going to do what they're going to do. And um, but I like to spread my ideas out there. Just throw them out there and see, hey maybe just try this. Put a bug in somebody's ear. And you know maybe they'll take heed and take a look at their lifestyle and maybe try to reduce their own emissions and pollutants and that sort of thing. But I definitely don't try to preach. I just try to do what I can do. I mean that's all we can do really.
A: yeah, interesting. Would you say climate change I something that concerns you or don't think about ti so much or?
I: you know really I don't. I mean what's gonna happen is gonna happen. And I don't think that there is really anything that, I mean I guess the government could impose more laws about how far we can drive to work in a vehicle that uses gas and that sort of thing but it just doesn't seem all that realistic. I mean what would we do, start riding horses? Like I said, I just do what I can do to try to keep things kosher and

hope that other people will do what they can do. And you know, it seems like other people are becoming more aware. I'm seeing a lot more solar panels around town and a lot more electric cars and a lot more people riding the bus that that sort of thing. So, just you know yeah awareness I guess and that sort of thing.
A: yeah
I: and how seriously you take. You know I don't spend a lot of time dwelling on it. I just go about my business and do what I can do.
A: Do you have a sense of what you think will happen in the future with climate change or environmental change? What impacts are coming down the pipeline.
I: I honestly couldn't tell you. Like I said I threw out a couple of examples I don't know what's going to happen. I can't even imagine. There's just going to be more laws restricting things I'm sure. What am I gonna do about it? I'm just going to have to obey or go to jail.
A: yeah, that actually leads really well into my next question which is just getting a sense of what do you think we should be doing in terms of climate change, or energy use or environmental issues. Who should be taking the lead, government or individuals or businesses. What do you kind of think we should be doing.
I: I think if people were more aware of say the expense of solar power. When we put in solar power we had no ideas that it would be as inexpensive as it is. I mean we were kind of like why doesn't everyone have solar power. It seems like a lot up front but then that's it. You've got your one big bulk payment up front and then you're done. And it's gonna pay for itself in no time. I think if people knew what it would cost for them to install some of these things in their home up front and what it would save them in the long run I think people would be more likely to go that route. So I just think being more aware. Like I said I had no idea what that would cost. I just thought it would cost a fortune and it didn't. But I was pleasantly surprised.
A: yeah, that's interesting. Awareness, people just don't know. That's interesting. Did you think at all about climate change when you were making your decisions to live off the grid or did that factor into your decision?
I: I don't think so. I mean I know that my decision would have less of an impact on climate change. But I think it was just the simplicity of the lifestyle is what drew me in. That was my thing. I like having a simple life. I say simple, but it's a lot of work. But it's simple work. Splitting wood, growing a garden. That sort of thing.
A: Yeah. Another issue that always comes up a lot with energy is energy security or independence.
I: uh (looks puzzled)
A: like not using foreign oil that kind of thing. Does that resonate with you at all or have you been thinking of that at all?
I: uh, I do. Not to a great extent. Mainly in my vehicle. Buying gasoline. I was actually given a list many years ago that was a list of those service stations that buy gasoline from oil from our own country. So, I was trying to buy from those stations just to keep the money here. Why not. You know. I don't know that's about the extent of that. I don't think much more about it.
A: Is there anything else about climate change that comes up for you that I missed?
I: well no, my concerns are more with the population explosion. You know that's where my really big concerns are. I think that's the biggest impact on everything. If people could just you know limit the size of their families a little bit. I know lots' of people want big families and even I did. But that was my reasons for having only one child. Because I would love to see the population reduce a little bit. It's just getting too out of control. I mean there's no more room for people. There's no more room for plant life really. I mean we've taken over every square acre of the planet. So, I don't know where that's gonna go, but it's sort of scary.
A: that's interesting.
I: when that's gone, we're all gonna be gone. I mean we can't sustain ourselves without the plant life and the animals and all that flora and fauna. When that's gone we're all gonna die off. And I don't think people see that. So that's just my biggest concern is just the population growth it's just out of control.

A: that's very interesting. One things about climate change that is very interesting that we have here, maybe because we have Steve Running here, I don't know. But there are studies of what will happen in this area in the future with climate change.
I: oh, ok.
A: And, were you here in the summer of 2007. I don't know if you remember it, that's the last like really hot summer we had with lots of fires and river closures and things like that.
I: yes I do remember that.
A: so some of the predictions of what it might be like with climate change is that it might be like that here all time.
I: all the time?
A: Unlike this summer, which was quite cool and wet. Would that summer impact you at all or what you like to do if it were going to be like that all the time, more smoky, more hot, less water.
I: yeah, the heat doesn't bother me. But um yeah smoky, I don't like the fires. I mean wildland needs fire to replenish itself so I don't see it as a wholly bad thing but you know see and that summer I just took it as part of the cycle of life. I mean there are gonna be summers like that and summers like this past one. I don't know that anyone can, I mean maybe there is somebody that can predict that cycle but I don't know that. So I just take it in stride one year after another (chuckles).
A: Yeah, um so I'm wondering if you think there is anything else in terms of energy use or anything else we talked about that is important to you that I missed.
I: No, I think we pretty much covered it. That last one is my biggest concern, with the population growth. Yeah. Um I just wish we could get people to see that. I really really do. Even myself I would have loved to have a big family with lots and lots of kids and stuff but I just. It scares me the rate the population is growing. Because we're just killing ourselves off is what we're doing. Yeah so, I can't think of anything else, so…
A: That's fine. And you had mentioned you don't want to get into politics, which is perfectly fine but I'm wondering if you think your perspective on climate change or environmental issues is influenced by your political views or?
I: no, nope I'm far more simple minded that that.
A: that's not simple minded.
I: I just want to get al.ong with the planet and our mother earth and that's pretty much my whole political view on energy and climate change. If we take care of this planet she'll take care of us. That's kind of my view on it.

N6.4 Sonya
I: So one of the major issues that has to do with energy is climate change. So what are yout thoughts on climate change. Where are you on the issue.

S: Um, I think it's really scary. And I think it's uh. I'm gonna start crying. Why am I getting so emotional. You know when the kids talk about it at home, I'm like you know in your life time there could be no polar bears (crying a little) you know the 10 year old comes home and it hard with the kids to make it not so scary and say the way we live is ok. We have to be aware of the way we live. I must be in an emotional momebt here. I never thoguth I'd start crying here. I'm crying, for the record, I'm crying.

I: no, that's ok, it's a big issue. It's not often someone comes and asks your opinion on this so. So, what in your opinion will be the impacts of climate change. What do you think is going to happen?

S: Like how bad could it get?

I: yeah, what do you think will happen in the future? What are your concerns

S: I think there will be indegenous populations as there already are that will be obliterated. They will have to come up with different ways of living or go the way of many a species. Ah, the drought, I don't see anyway that anything is going to be the same. Climate change measn climate change, wet places could be dry, dry places could be wet. The ocean levels are going to be rising and so ah, I'm not as compassionate to people, besides indigenous people. So our lifestyle affects the melting of the ice caps and so I think its incredib;e and you know the whole oil spill so now people care about the usage of oil because its affecting that areas in the southeastern united statres. And its not until people are truly affected that they care, but then it's too late. I mean if the water levels are rising. I think ingeneal particularly americs, myself included, is so far removed. Anf in missouls people are complaining that the skiing has gotten worse and I has. We lived here 20 years and the number of days has gotten worse. But Imean that;s pretty…that's why people care. But thenagain here we are driving up to go skiing. I mean we're not chaingin our lifestyle. We're as selfish in terms of the effects as other people.

I: So it sound slike you do think climate change will have major impacts. What do you think in terms of timing. Do you think that will happen in your lifetime or your kids or far to the future?

S: well, it's happening. Its not like you get to some point and there will be global warming. It's a process. I think the world will still be habitable for my children. It will be very changes. It's very changed in my lifetime. Does that answer your question?

I: yeah, I'm wondering when you think things will happen and to whom.

S: I don't when I think its gonna be. I can't even remember who said it but if we continue to have global climate change, if our emissions stay the same and our effects stay the same as today polar bears will be extinct in 20 years or something like that. But we could slow the rate in which that occurs. I don't know if we could stop it. We can't reverse what' already happened. And all that stuff like shooting sulphur up into the atmosphere. There are side effects from introducing some exotici speciies to take care of some other speicies. There are ways to slow it down, it's not going to stop. There are ways probably to mitigate some of the effects.

I: yeah, that's interesting. What do you think we should be doing. You have alluded to that but what do you think we should be doing.

(break while she adds money to the meter)

S: So what should we be doing? What should we be doing. You know it's a really hard one because should we be doing personally I mean personally we should not be driving to Discovery every weekend in the winter in our big van. But we will. So specifically what's the question? What are we willing to do?

I: I'm also interested in who you think should be doing something. Do you think individuals can have an impact on climate change?

S: I think individuals can. I mean, for example, I was at this meeting and I'm so used to surrounding myself with like minded people, and I was there with all these forest servie people and jobs corp people and I was floored by the useage of Styrofoam cups and I wouldn't even think about doing that. I have all my cups, three stainless stell cups so I can have my tea and. That to me is so enlightening. I mean there are so many people who either are not aware or don't care. I mean for religious reasons or whatever. That there is some…So I think we should be, the US should be following Europe and other countries lead. I guess Californi is doing better than the rest of us. I think there has to be control, I mean form above….

I: like getting into the role of government?

S: yeah, I mean I think individually we could do a lot. I think kids are a greta way. I mean they come home and my tne year old is like what about the polar bears. I mean she and her friends recently made 80 dollars and they were tyring to decide which organization to send it to and sent to anorgnizationpotters for peace. They make ceramic water filters to send to countries that ond't have clean water. And in the newsletter it said, it was really well done, it said in watching the plight of the world, there is some good news there's a group of 4 ten year old form Motana that…so I think tings like that and that getting press is really important. I mean its gonna be there planet and their kids planet. But I don't think kids in general can change families habits. Its our lifestyles. Were such a rushed society. And its our rushing that makes us use the car, use the fast food use the disposables. And it's the wealth. We have more impact than a latin American family in latin America who all their holidays and vacation time is in the community with their family and friends. And there is something really cool that they don't have to be flying all over the place. As you can see I have a real passion about this.

I: that's great

S: So, to answer your question. Yes I think it has to be government started. There have to be regulations tax incentives. I think the government has to something ith public transportation. And in Missoula with the ike pths its ridicuouls. I mean lets all as a family bike to the good food store and then all of a sudden the bike lane disappears. Why are they spending all this money chainging the roads and then not putting separate bike lanes where is safe. There are other countries where you just bike. So I think a lot of that is a lifestyle change that has to be started by the government.

I: that;s interesting. Where would you say you get most of your information about climate change?

S: uh, (names a local climate change organization employee who is her friend). Do you know her? She's a very good friend of ours. Do you know her?

I: I do, in fact she's on my list .

S: do you have anyone from the other side?
I: I'm trying, they are a little harder to find.

I: That's the other thing if it becomes your passion and it's not my passion, in that (friend) has given up her life and she doesn't sleep because she knows too much. I think it's better to stay a little ignorant like I am than to know exactly what's going on and how poorly um receptive Americans are to the plight of the country. So how do I get my information. I'm joking. I do get things from Amy. From the news, from the liberal news the environmental organizations sending us emails.

A: Do you think your political views influence your views on climate change at all?

S: (long pause) I kind of think they're one and the same. So yes. Um yeah. I think the government should be in charge. There are things that have to be done. I think you can be one way or the other and have different beliefs. But I think for me it came all together so I can't separate it.

I: So I'm wondering if climate change played a role at all in your decisions about getting the Prius or building the green home that you have?

S: Yeah, deffinitly.

I; And so, you say you haven't done very much but you have done a lot more than most people, so…

S: yeah, I mean we're willing to change the things that are easy to change. I mean we are right no in kind of financial deep water but I don't see us losing the house so it's easy for me to say that. We're still skiing we're still flyiung .

I: I'm just interested in the role of individuals to reduce climate change and how you feel about the things you are doing to reduce climate change. How climate change plays in as a motivating factor or not or?

S: it does, I mean we are aware. That's the first step. We are consciously trying to make decisions to use the bicycle and not use Styrofoam and not throw things away and use fast fod stores. However we're also consciously flying back east and driving down to Utah for spring break. And it's just interesting. I had thins conversation with my 15 year old that we raise snobs. And so she was being critical of toher lifestyles and that they cause climate change. And I was explaining that yes there are other people who shop at fast food stores and shop at walmart and that has other effects but they might have less financial means. And they might have less of an impact on the climate than we do if they don't have the capabilities to be flying to places and be skiing and driving to places. I mean if they are just staying locally. I'd be curious to know what the difference is in carbon footprint we use vs. a family that doesn't have money but is also not aware or conscious of it. Do you knw the answer?

I: I don't. But it's interesting. Another energy issue that comes up a lot if energy security or energy independence. And I'm just wondering what your thoughts are on that?

S: What's that mean?

I: Like not using foreign oil, that kind of thing.

S: do you mean like for the individual? I mean ina snese we are almost energy self sufficient on the individual level in the sense that as long as the sun is out thre and ground water stays at 50, 55 degrees, we can stay wamr. We personally could be compfortbale because of our input into the house. And biking and walking. In an ideal world I'd be walking not even taking the bus. But in terms of countries or, I don't know, so may wars are over petroleum. It's such a complicated issue. I mean, I think we have the resources here, wind, soalr, to be less dependent on foreign countries and the artic is in asnese a foreign country, we should not be drilling in the arctic. But we need fossil fuels.

I: would you say energy independence was a key issue for you in building your house or buying your car?

S: no I don't think we really thought about that. But now that I think about it. We have the rattlesnake creek. We should get one of those potters for peace filtration systems and then we could keep heating our house and running our appliances as long as the sun is out. It is an interesting thing.

I: yeah. I'm wondering if there is anything we talked about in terms of energy or transportation or climate change that I failed to ask about that is important to you?

S: I can't think of anything…I'm sure there's something. What I alluded to, more than alluded to before. I really think getting the kids, the next generation involved is essential. I mean they've shown how getting recycling into families was done primarily trough kids and schools. There is a way to change family attitudes and awareness and not not, what's the word, not a prosteltyzing way but just an awareness. But then there are people who are nti global warming, that whole religious group and they will feel like the schools should not be. I'm sure there are schools that are no even allowed to talk about global warming, like there are schools that are not allowed to talk about evolution.

I: that's interesting. My last se to questions, you already covered a bit, but I just want to run thorugh them quickly. There has been a fair amount of research about what will happen in this area with climate change. And a lot of tends to suggest Missoula will look like the summer of 2007. I don't know if you remember that summer?

S: a lot of fires.

I: yeah, it was really hot, a lot of fires, low stream flows, river closures, that kind of thing. And I'm interested in how that would impact you, and lower snow days, how that would impact you. Are those concerns for you?

S: it's interesting because I was talking to (friend) about great this last summer was and she was sayin ti was terrible because people forget. People are not as Americas we need to be directly affected. And yeah I would hate it because I don't like the heat. And it's a catch 22 because people would be using air conditioning more and we would be using our cooling system more and we would have to be using outside electricity. Um, it ould be like we used to live in Tucson, and that summer was an awful summer, you couldn't do anything, everything was closed you couldn't run along the river, and that's what we're all here for to do those things. And it goes back to you have to get the awareness before that can happen. It drives me crazy when is see people driving around with their air conditioners on in town when its 85 degrees. We lived in Tucson for 10 years and we did not have air conditioning, I don't know how we did it, because now we always use the air conditioner on the highway, but in town we drive around with a water spritzer and, even (friend) makes fun of me, that we are sitting there going like this (motions spraying herself) and we are pouring water on the kids. I mean there are ways and its fine, I hate being hot, but if I keep wet, I keep cool. But yeah I would be miserable in Missoula and I would want to move further north or higher up. But it would all be getting warmer and so all the animals are going up to top of the mountains and really there is now where to go.

N6.5 David

I: Yeah, it is. So, uh, one of the major issues –just to switch gears a little but—that has to do with energy is climate change. So I'm wondering what are your thoughts on climate change?
D: well, uh, pause, I think probably….
I: I could give you a more direct question there, like do you think it's happening?
D: oh, yes. Um, you know the science is tricky and its hard to get a direct answer but I think anybody who is objectively looking to weigh the preponderance of evidence would pretty much have to agree there are human induced changes happening to the climate right now and likely to happen to a much greater degree in the future. I mean, people will always find a way to believe what they want to believe. But, there's a good chance that I would be pre-disposed to believing that even if the evidence was weak, but I don't think the evidence is weak. So…And I think, especially because for a long of time we made our living working in wild places and one of the first big books, popular books anyway that came out on that was Bill McKibbon's The End of Nature on one of the points of that is that there is no place that's really wild anymore because human induced changes are reaching all those places. And having spent a lot of time in wilderness and having those places mean a lot to us early on that caught our attention and it's only increased from there.
I: yeah, so would you say you are concerned about the issue of climate change, that you follow the issue closely, is it something interesting to you?
D: yes, I am concerned and I follow the issue. I kind of have to because I live with someone who is obsessed with, lives and breaths the issue.
I: yeah, you kind of have to, I bet you have a lot of discussions around the dinner table about climate change. Do you follow news report and it sounds like also hard science.

D: Yeah to some extent, but not as much as (wife) does.
I: and would you say that climate change comes up in conversations a lot with friends and family, is it something you talk about?
D: Yeah.
I: and how do you generally respond in a conversation about climate change?
D: It's not that often that there is actually a debate about whether it is happening is that what you were thinking of?
I: Yeah, or just kind of how do the conversations usually happen, is it usually people who feel the same as you or is it people who don't believe in it.
D: yeah there is some skepticism occasionally, but I would say very occasionally. I don't know. I think the climate change debate makes such a clear example that rationality has very little influence on people's beliefs. So although I feel that there's not always a lot you can do to change someone's mind I'm happy to present evidence.
I: to engage in the debate, yeah that's great. Do you feel like climate change is going to have major impacts? Even personal impacts, do you think it will impact you in your lifetime or what do you think the impacts will be?
D: Uh, yeah I do, I think the science is less good at predicting the future, but that's what I use as my guide. What scientists who are studying the issue are predicting will happen. And here locally it looks like this summer is probably going to be an oddity we are going to have real hot and dry summers, likely severe wildfires. It's not entirely clear that the Missoula valley will be habitable in 75 years at least no by the number of people it would otherwise have if demographic changes keep going the way they are now, or not even by the number of people who live here now.
I: Interesting.
D: We are lucky to have this irrigation water that we use in our yard and gardens. Whether the Rattlesnake will have anything like the flow it does now in 50 years. Well, I'm 46, so I likely won't be around in 50 years but.
I: well…
D: it's possible
I: hopefully you will be, but also your kids.
D: Yeah, I definitely think of it more in terms of our daughter's life and the changes, I mean the combination of increasing human population and increasing effects on the environment, Well, it's a grand experiment.
I: Yeah it is. And you mentioned the impact on wild places. Would you say you're interested in both the impacts on people and non human nature?
D: Oh, sure. I mean people are very resilient and we'll always make sure that we feel the impacts as little as possible. But the impact on wild places I mean I would say they are already extreme. You can't in all cases link it directly to climate change. But if you're talking about how many generations of pine beetles happen in just one growing season and what the impact of that on that on our forests are, white bark pine are (alludes to extinction), migration of many species northward or up in altitude and you can only go so far up in altitude if you're a pika. They will suffer a lot more than we will.
I: Yeah.
D: and those changes will eventually ripple into impacts on humans
I: yeah. Would you say that climate change played into your decisions about your car or this house.
D: at the time of building this house, I mean we were aware of it, but that was 95.
I: Yeah it wasn't as big of an issue then.
D: Yeah we wanted to build this house for a number of reasons, mostly environmental reasons. Affordability played into it as well. In terms of the a car, which we just bought this year, climate change was if not the top of our environmental concerns near the top.
I: yeah, so would you say that climate change is something that individuals can impact or help to reduce where to fall on who should be doing what?

D: When people break it down those individual impacts are so small, basically negligible. I think they can have an influence on what other people do and what policies can be, the early adopters driving change sort of model of changing things. But I think government policy is essential if there is going to be a real difference in what happens to the climate. But, no I don't have any illusions that if everybody drives less and burns less natural gas to heat their house, and eliminate coal. You know it's not going to happen based on individual choices. Individual choices might pave the way to some extent. Ah, yeah, of all the possibilities for having a real impact, government policy has the potential to make the greatest impact and although people in congress will tell you it's just not possible it's way more possible than any of the other options.
I: yeah, to actually make an impact. Where do you think businesses fit into the whole thing in terms of what will move them or?
D: I think they are mostly reactive to market forces. So if someone crates a form of energy that is as convenient and is cheaper than what we have now, if solar becomes affordable or wind energy sells for 2 cents a megawatt hour, than business will drive the change. But until it's at least as easy as what they have now and more profitable you know it could be just as good and just as cheap as what's available with fossil fuels and there is no reason for them to change, there are costs of changing over. But if they could make more money then they'll drive the policy and that's not impossible. It could happen but that's a lot of hope to place on technological improvements.
I: yeah, yeah that's interesting. Um, do you feel like your political views impact your thoughts on climate change at all?
D: yeah, I feel like everyone's political views impact their thoughts on climate change. Take anyone, if you could find someone who has never heard of climate change and the debate about it and their political views and religious views about the place of humans in relation to nature will pretty much determine their position on climate change.
I: yeah its a very politicized issue. It does not seem like it needs to be, why do you think it's ended up being so divisive.
D: Um, I think if you're a, I'm gonna use a political label even though it's not exactly what I mean, if you're world view is conservative, if you tend to view the way things are as good and worth holding on to then the idea of climate change becomes a criticism, It's telling you that what you believe is wrong.
I: yeah, interesting.
D: because people are hurting the planet by doing what you think is good. And if you're looking for change and improvement then that feedback re-enforces your world view, see I told you that was wrong. I don't think many people go beyond that. Like, oh look I told you that was right or no that can't be right.
I: Like, I don't want to change so…
D: here's an interesting thought experiment you could do. I think this is true. If climate change were clearly happening and clearly natural I think those two sides would reverse their positions. The people who now think it is bad thing would probably be saying you know you guys it's just the way it is its natural and we have to adapt to it and accept this. And the other guys would say we got to stop this, we got to bomb the sun or whatever technology needs to do to reverse this. Yeah most of the people are making up their minds based on those things. This either supports or contradicts my worldview.
I: Yeah, that's very interesting. I hadn't ever thought of that reversal but it's a good thought experiment. So you mentioned when we talked about your car and your house that climate change and the environment played a role. And maybe financial? That they would be more economical? But what about energy security, did that play a role? You actually mentioned the Iraq War.
D: I mean you don't see people doing cost benefit studies that really factor in all the costs. I've heard there is a 10% premium on imported oil that is the military cost of protecting these oil sources and I don't know whether that s accurate or not but yeah, I think a high gas tax would actually save us a lot of money. And again, I haven't done a study of the costs and benefits. But I think it's good politics.
I: yeah, I agree. Um, so I have just a couple more questions, you already kind of alluded to these, about how climate change will impact this area? It sounds like you do think it will impact this area?

D: Yeah, the future predictions of how specific climates will change seem to me to be less reliable about whether or not it's happening but yeah, I do think it will change.
I: you mentioned some things that come up in the science, fires, smoky days, lower water flows. Would those things impact you personally if they happened? Or how would they impact you?
D: Yeah, so specifically if I think about our day to day lives, I don't worry about our house burning. We are in a fairly safe place, We're close to things that could burn. The smoke is major health impact. The water flow obviously would change, if we weren't able to water with irrigation water. Other specifics, uh, we do when see a dead branch on one of our trees, we think, uhoh, do we have pine beetles. I'm trying to keep it uh…(pause).
I: are you a water sports guy or a fisherman?
D: Not in any serious way, I used to a lot of kayaking, we do some canoeing. So yeah I guess that's true in terms of water flow. We had planned to do the Smith River and we canceled not because of low water flow but several feet of snow.
I: oh, yeah it was a different kind of year.
D: But yeah it would limit recreational opportunities that way, especially later in the summer when you want it's nice to be out on the rivers.
I: yeah when it's hot. Would that impact your choices on where you want to live. Would you want to live here anymore? I know you did mention this is like 50 years out, so hypothetically?
D: Yeah unfortunately its hard to predict where, I mean it's not going to get better anyplace. I mean here's a place that's going to get better under climate change. I mean we're adapted to these places the way the climate is now. You know we're kind of drawn to Alaska and (wife) spent a few summers up there. But I think the arctic is going to be impacted more than anyplace. And that was actually something we talked about when we considered moving there.
I: oh, yeah that's interesting, because maybe there experiencing things more quickly and more harshly. Interesting.
D: I'm not sure where you would want to go. Coastal areas (sarcastic)? I don't think so. It would affect whether we live here, but where would be go?

N6.6 Gary
I: And I'm interested in what are your thoughts about climate change?

G: Oh, boy, climate change. Okay. I'm, of course, 100 percent sure that it's happening, but climate changes have always been with us or before we got here, it's just that we're concerned about us now. Well, warming of North America actually means a cooling of Europe. Did you know that? Europe is going to cool by 2 to 3 degrees of Fahrenheit. It could end agriculture in Europe as we know it. It will cool it. We're going to get warm, the whole planet will get warm enough where the water will rise but there's other parts of the world that will actually get very different, and it's all going to be different. And, yes, I believe it is man-induced, but the thing that I find so disempowering and this is really a concern of mine, the people that deny climate change, they're going to deny climate change, that's their deal. But I find it interesting I read a poll last month, Kansas – Kansas is kind of a trip actually. There's a book out called 'What's the Matter with Kansas," I think –

I: Yeah, I've heard of this, yeah.

G: Well, Kansas has the highest percentage of climate change deniers in the country. They don't believe it's happening. But they have the highest percentage of communities making energy efficiency gains. I find that fascinating.

I: Yeah.

G: So this kind of comes back around, segways back around the disempowerment I feel with the term "climate change.," because everybody, well, shit, it's a global deal, there's nothing I can do about it, so business as usual for me, because my little behavioral change isn't going to mean squat. And I find that alarmingly disempowering.

I: Yeah. That's a very good point.

G: So whether you deny it or not, means that you're not going to do anything about it because it's not going to make a difference. But if you were to somehow turn that around so that – well, like the recession is saying, I don't have any more money, what am I going to do? I have to live within my means. I have to cut back, I have to downsize, I have to get smaller. Or, the whole issue of how can I keep money in my pocket? How can I keep my family safe? How can I not spend money? Because if you're spending money, it's to buy something that will have a carbon footprint. But if it means keeping money in your community because you haven't given it – you didn't just put $60 worth of gas in your car, all that money went to Houston to refineries, right, well Houston doesn't need anymore money. But if it kept it in the community because you spent $20 on gas, $40 is now left in Missoula to exchange. That, to me, is a great thing. If we can realize how interdependent we are in our own community with money that you and I exchange, in our own community, and I didn't have to give it up to Exxon. If we could look at it that way, that's energy. Energy is money. Money is commerce. Money is community. Money is – if it's kept in your – you know what I mean? Conservation leads to all those things right here in this community. Instead of, Oh, My God, I can't do that because the oceans will rise 5 centimeters. Well, yeah, it probably will. The behavioral changes that we need to make in the next decade are going to have to be huge, really, and I will have to make a lot more than myself, a lot more.

I: But that's interesting you're getting at the motivation, people are not motivated by the 5 centimeter global deal but –

G: I'm kind of presenting this to you to think about but also maybe to bait me because I'm not seeing that global climate change is the moniker that elicits behavioral change. That's all I'm saying. Whether you believe it or not, because right now I'll tell you, if I hear another conference on global warming, I'm going to throw up, because there's this (indicating talking), everybody is – they're in Cancun now. They're talking Cancun, they're going out to the beach, and they interviewed some woman there, some international representative from someplace and she says, sure is a lot of talking down here. And all the climate change conferences, Ali, are all the same. They're all the same. And I talked to a green building guru that was here last summer, protégé, I was doing this for – I was doing this for 16 years go around with the all gurus talking about green building in the United States, I just burnt out. I burnt out traveling, I burnt out giving the same message, and I burnt out really not learning how to implement my ideals in my own community. I mean, I learned some great stuff but what was happening to me was that I needed to make a difference in the community and the talk, it's just all talk. And every once in a while I would get done with the talk, some quiet little guy would come up to me for a couple, they would never get up on podium, they would never tell anybody but their closest friends, but they told me something that they were doing in their backyard, just like blew me away. But they told me because they knew I would tell the next group of 500 people I was talking to about what they were doing and I thought that was so cool. In their humility and in their grace, they were doing these amazing things that was 10 times more than the talking heads were doing but the talking heads were talking, and that kind of finally brought me off the podium and realized that I don't want to be a talking head anymore, I should do stuff.

I: Yeah.

G: So if you hear of another global climate change conference, don't tell me about it.

I: Don't invite you.

G: Don't invite me.

I: Oh, that's actually – I'm very interested in kind of the scale at which you think we should be addressing climate change, individuals versus communities versus, you know, businesses, you know, federal government, where do you kind of fall out on who should be doing what?

G: I keep thinking the federal government looks to local examples. They're trying in D.C. to do something, look at Congress, they're gridlocked on "Don't Ask, Don't Tell," for God sake. They're gridlocked on so many issues because politically it's almost impossible to implement anything. Did you know that even the oil and coal companies were all set to change radically because they thought carbon dioxide emissions were going to be controlled by the EPA? They were ready to go. These huge coal, oil companies are in China right now because China is doing this, and they're helping the Chinese make some of the most advanced decisions in renewable energy right now on conservation. You wouldn't think that would happen but it is because China snaps – their central government snaps their fingers and says we're going to do 12,000 megawatts of wind over here tomorrow, and they did. They're the largest renewable energy manufacturer and utilizer in any country in the world. We're not even close. We're not even close. And they need everything. They need every renewable, they need every conservation, they need every baby not born, they need all of this and they're still going to lose. It's not going to be easy for them. But we look to them because they can do quicker turnaround with all the stuff.

I: Yeah, because of their government –

G: Because of their government. And we seem to have lost our will. We can't even legislate so the private sector can say, Look, just set the standards. You set the standard, we'll figure out a way to get there. We'll figure out the most cost effective way to get there. But right now because you have no standards, what the hell, we'll just continue to plow through and auger through these resources because nobody tells us not to. That, to me, is government not doing its job. Private sector, I don't know, if you're driven by profit, you'll want to get more. Or you can spend less running your business trying to do both, trying to spend less running my business and hope people will call me for renovation and energy conservation projects.

I: Yeah.

G: But right now the big companies really were – they were dead serious. They were pale in the face looking at CO2 legislation coming down. Many of them are moving ahead knowing that coal is dirty, coal is a bad boy, but oil companies don't – this is the thing – this transportation thing, those great big things –

I: Oh, this big huge rigs, yeah.

G: It's a little bit of NIMBYism, you know, not in my backyard, but the other thing is they're doing this to provide us with cheap oil from Canada. Now, that's crazy. It shouldn't be cheap, No. 1. No. 2, why do we use it with no remorse at all? I mean, we just consume it like a – because the price point is so low. If gas was $7 a gallon, 6, it was almost 4 and there was a sea change happening here in Missoula. When it got to 4, I'm thinking, this is happening too fast even for me and I've been an energy bozo for 30 years, Oh, my God, it's 4 bucks a gallon. I was ready for it for the most part, but the country wasn't. The car manufacturers weren't, the pocketbooks weren't, and 4 bucks a gallon is nothing.

Finland it's 8, Japan it's 9. Oil costs the same in those countries, they just put social taxes on them so everybody gets healthcare and everybody gets mass transit. They're taking care of themselves.

I: Yeah.

G: We just piss it away.

I: And from your point of view, there's sort of an ideal scenario what do you think we should do to change that? Should it be the government? Should it be businesses? Should it be individuals? And then also the same question from a realistic point of view, what do you think will actually work?

G: I think you need to get the best heads together in transportation, in buildings, in manufacturing, all the sectors, commercial, and tell them that, you know, our energy costs are going to be going up five years from now it's going to be ramping at this level, this is what it's going to cost you to run your building, to run your car, to run your house, to run your business, be prepared for that. And then the government is there to make sure that those prices do go up. Do you see?

I: Uh-huh.

G: Because as those prices, I've just come to believe, Ali, that the consumption of a resource is inversely proportional to its cost. You don't see people throwing gold out the window but you see them throwing aluminum cans out the window. And in 1884 when they built the Washington Monument inWashington, D.C., the tip of the Washington Monument is a 7-inch square pyramid of pure aluminum, because in 1883 that was the most expensive and precious thing on the planet. It was light, it was strong, it never rusted, they thought it was a miracle, and it took millions of volts of electricity to make it. That's what's so expensive about it. Today we throw it out the window. We don't even think about it. And it's still aluminum. It's an amazing thing. But because it's cheap, we can throw it out the window. So I just – this cost thing, and then everybody says, Well, I want my taxes cut. I want Medicare. I want Medicare, I want all these things but I don't want to pay for them. Really? Really? When did that start? All I'm saying is if government had leadership to say these resources because they're limited are going to go up, then be prepared for that and readjust your business and your consumption and the way you work with your community so that you're prepared for that. But when prices go up and down and now gas is going down, natural gas prices are going down, you see there's no incentive for anybody to plan for, Oh my God, you know.

I: So would you like to see government kind of enforce those price increases through taxes or whatever –

G: It's not politically popular, I know that, and I know it means retooling our entire way of life. It means transit systems, it means efficient cars. Obama is trying to do this against almost overwhelming odds and he needs our help to do this. And the moderate Republicans, wherever they're hiding, I wish they'd come out to help, not for – not – how do I say this? – not to help Obama's agenda but what about the country? Think about the country. What would be the best long-term interest for the country right now? I think we need less reliance on foreign oil. That would be a big one for me. But we're going to rely on it more and more if we continue to waste it here. That, to me, is easy to understand. Oil companies don't and can't control the price of oil. This is an interesting thing. If you read The Prize by Daniel Yergin, who was – in the '80s – fascinating book but he talks about oil in a cartel. A cartel is a very different thing than I have some pears, you can buy a jar of my pears for $4 and I have a limited supply, you know. I control the pear production. You want them. Oil is – Venezuela sells it cheaper than Kuwait, well then Kuwait drops its price. Nobody really controls the price of oil. And as

a result, if oil costs X, X plus 1 or X minus 1 in the world, then the only control we have on its consumption is what we tax it. And we tax it in Montana. There's state and federal taxes on oil – on gas here. But it's nothing. It's pennies per gallon. All I'm saying is government can ride this tide and slowly increase these taxes so it goes towards conservation, weatherization, infrastructure improvements, then public and private sector really do work synergistically with each other. And when gas prices go down, they shouldn't, then the tax is higher, see, so you can always expect to $4 a gallon for a while. And if gas is 3 bucks, the tax is a dollar. But that goes into weatherization and improving peoples' homes. Anyway, I've got all kinds of ideas about even how we can improve transportation. All the Priuses you can build in the world won't scratch the surface. But existing cars driving around right now could be retrofitted. You could give money to your community to help local mechanics retool your cars, spread the money around the United States so that we'd have fuel efficient cars in the existing fleet that we have. Then as they're slowly junked and the newer more efficient cars come out, we make the transition. We have to do all of that too. We really do.

I: Yeah, absolutely. You've mentioned communities a lot in our conversation. How does that kind of fit in in your opinion on the question of climate change and energy? We've talked about the federal government, how do you kind of fit individuals and communities into the equation of what we should be doing?

G: Again, I'm trying not to be cynical or jaded but I've been on the governor's global warning advisory commission, I've been on the county global warning advisory commission, I'm on the mayor's now, and I like to do stuff. I get up in the morning and I do stuff. I just don't talk about it. I do it. And I'm tired of the talking. I really am. You know Robin Sala (sp?) at the University?

I: Yes.

G: Great guy.

I: Yeah.

G: He put a whole program together for what someone can do. We can do, not talk about but do, and he's been trying to get traction of his climate change policy report in the City of Missoula. We keep cancelling our meetings, can't bite down, and all I'm saying is I think – and I'm trying not to sound mercenary because you know where I'm at philosophically, you know where I'm at ethically, but the only way I think we can make this change I think it's either got a spiritual transformation or a monetary one. I will default to the monetary one. It's got to hurt. It's got to somehow hurt. The City of Missoula has a budget shortfall, then turn off some of the lights, drive less. I mean, there are ways we can create posterity. I'm not convinced that education is going to work, and that's not to deny the education that you've paid for at the University, it's valuable, you know, but it goes so far and then you have to have policy and implementation and ultimately you have to save money in your community. So I think – I think government really does need to lead here. If it's good for the commons, if everybody benefits from something that's well done and well distributed, we all win. And government I think – Exxon isn't going to do that for us. General Mills isn't going to do that for us. Wal-Mart is not going to do that for us. But the government could. The government could say, you know what, all of you are going to be taken care. There's an equity thing here. So I'm hoping for some more leadership here. I've just been shocked by the divisiveness, just shocked. Well what about us? Really. I'm not a Democrat, I'm not a Republican, I'm not a Libertarian, I'm just an American, what about us? I hope that comes around.

I: That's very, very, very interesting and very true. I'm wondering what you think is going to happen in the future with climate change, what are sort of the impacts you expect to see?

G: Well, I think we're going to see major changes in forest ecosystem. And maybe trees are really cracked up to be more than they really are. There's a lot of historical evidence, there weren't nearly this many trees around here back 300, 400 years ago. That's the Midwest too. There's just the interesting history of forestry in different ecosystems. Of course, we've got the disease and drought situation going on here now in our region. I think that will really change. There will be another generation of trees of some kind moving in but, you know, the most critical thing is it's not just the trees and the woody shrubs or the grasslands that will change, it's the long-term water storage at high elevation. That's my biggest concern for fish, wildlife, and ultimately agriculture. Montana is already at the edge of that anyway. This is ain't a wet place compared to Midwest.

I: Right. Sure.

G: I really haven't – oddly enough, I haven't really taken the time to look at what this means in the Midwest. Is it going to be drier there? I suspect it probably will be. Then when you look at global or North America urban water supplies, geez, that's sobering as hell. Ali, that really is.

I: Yeah.

G: But then the way we consume water and then poop it out is just appalling. This is pure potable water and we need 3 ½ gallons of water to flush it and then spend millions to clean it up to – I mean, it's crazy how we use it. Then the infrastructure necessary to get it to us clean and then to dispose of it dirty, Oh my God, where is the money going to come from? So we really need to rethink that. Cities need to produce or capture their own water. Cities need to recycle and reuse their own water in efficient ways, and there are cities around the world that are doing this, regions that are doing this.

I: Yeah, that's a very good point; water and ecosystems. Are there any other kind of big concerns that stand out to you in terms of what you think climate change is going to do? It's fine if there's not, just to make sure that I'm not going to be jumping too quickly.

G: Well, energy, of course, is tied in this, not just that the combustion of, you know, old carbon will exacerbate the problem but that the continued use of non-renewable coal and oil resources for increasing cooling needs will be interesting. Yeah, as the climate warms, we actually may need to more energy to keep us cooler unless we rethink how we design cities and what we make of those non-renewable resources, and it kind of goes back to that plastic thing, it sounds crazy but we're going to have to stop burning it in our cars and we may find ourselves starting to make textiles and fabrics that will shade our cities, capture our water, create electricity.

I: Interesting.

G: So we may well need these non-renewable resources to create a whole new generation of products that we need to keep us alive and cool and fed and watered. I'm really intrigued by that.

I: Yeah, that's very interesting. That's very interesting. I'm wondering where you get information about climate change, or if you seek it out at all.

G: Well, we got a ton of information when I was on the governor's climate change task force, reports, any sector we wanted, you know, forestry industry, commercial, residential. We got tons of information. And it came from the IPCC, it came from other states doing analysis. It came from our own state doing a carbon analysis. I get – there is so much out there, I can't even begin to – everybody's got a nonprofit on global change. So I get a lot of it from environmental building news out of Brattleboro, Vermont, because it relates to my industry and my industry is about 35 percent of the

problem, buildings. Even transportation, I don't think, is that bad. I think we're No. 1. We have a lot of work to do. But, yeah, I don't, and I've read some of James Hanson's stuff. He's been here and Steve Running is a good friend of mine, so, you know, I get – I get a lot of it. But then the micronutia, you know, phytoplankton and levels of PPMs and the M's are change over time, I'm not that. I'm not fascinated by that. I know it's happening, I know there's science wonks that are doing that but somehow it's not translating and it never seems to translate through to policy very well.

I: Yeah.

G: And that's where unless we get leadership and a policy change in how we approach this stuff, which means everybody just has to change their behavior a little bit. We've been naughty. What's that going to look like? What will that look like? I'm optimistic, I really am, I'm optimistic that a change can be made but – and maybe we need to have this pendulum swing all the way over here with so much divisiveness and fighting that it will eventually come over here and we'll all just figure out how to make this work; together it will be less fear-based and we have so much room to move just augering through the waste that we have to come up with better living. I know we can do it.

I: What makes you feel optimistic?

G: I have kids. I have kids. I want them to enjoy this place. I want them to steward this place and other places that need to be fixed. We'll also need – we will need to have population control. That may have to be in Mexico because White, Euro countries really aren't even meeting their replacement levels yet in terms of population growth, which is good, I think, but it also – it has to be matched by Asians and Hispanics too so that their populations will come within a normal range for sustainable ecosystem. That's almost mind bending because it's so oil dependent now.

I: Yeah, that's true.

G: And then of course you've got climate change that will also drive enormous migration changes of our species. What's that going to look like? I think it's going to be dry and hot here; give a nod to Mexico. Really, what is going to happen down there? People may well find themselves fleeing heat and famine to come to other places. What was that movie Independence Day? No. Day After –

I: Yeah.

G: Did you see that with the climate change thing?

I: Yeah, where we go to Mexico?

G: Yeah, that was very – you know, I think they purposefully juxtaposed that. And that was really before a lot of this immigration crap started to happen. Instead of a heat out, it was a freeze out so we had to go to the next warmest place we could find. That was a very interesting twist at the end, like, Whoa.

I: Yeah.

G: I like how that was done.

I: Is that a concern for you in kind of the human impacts of climate change, what will happen to people or –

G: [long pause] Hmm…That's a loaded question.

I: How does it fall, you know, compared to other things?

G: Well, we're here. We haven't had a tendency to think of everything surrounding us. It's all about us.

I: Sure.

G: I'm sure nature doesn't necessarily see it that way. And there are a lot of us trying to match – now, globally, trying to match our lifestyle. It would be interesting and sobering to watch how that happens. I'm wondering when this change occurred, do you think? You might be too young for this, but trying to find out when it became okay the metaphor is to buy a Hummer? When did it become okay to have more than one house? When did it become okay to have 6,000 square feet of living space instead of 1,200? That's a question I just keep wondering. When did it become okay to consume more than your fair share? Do you see what I mean? In the past and aboriginal cultures, Ali, there was a shunning that occurred. If you blew it, you know, if you acted out of turn or took more than your share or did something that would threaten or endanger the good of the community or the village, you were shunned, you were pushed away because you weren't fit to live with everybody anymore. And we're not shunning, for good reasons probably we're not shunning, but at the same time we have a tendency to put people on pedestals that – well, like Bernie Madoff – it's a metaphor again for I'm smarter, I'm richer, I'm shrewder than the rest of you, and there are some cultures where that doesn't work. That doesn't work at all. So I don't know. I hope that will change. Somehow I hope that will change. And I think, what I'm seeing around Missoula and I think nationally is what's happening too is – I never saw this while I was growing up – these new churches are popping up all over the place. There is a strong need for some kind of spiritual community, some kind of community of like-minded people, I want you in my village so we're going to go over here and pray and we're going to be the new fundamentalist Baptist church or whatever, I'm not faulting them. All I'm saying is it's a phenomenon that I'm watching, people want to be around like-minded spiritual people so they can kind of feel safe. But out here they don't feel safe. They feel like somebody is out to get them, big government, Tea Party, somebody is out to get them. But when they're in a community that's under the guise of a spiritual community, I'm just kind of fascinated by that as a movement.

I: It's a very good point. I agree with you they're popping up all over.

G: And the charismatic's that lead those movements are interesting to me, because I think the future may be in the hands of storytellers, charismatic's, Billy Graham, Garrison Keeler, there's some – and many of them are of a religious, not all, but if you listen to – Obama is a great storyteller – the idea that you can inspire and create a new world verbally and get people to dream, it's almost like a dream state, I think the age of storytelling and myth, and it's always been with us, it always has been with us but I think it's coming back because technology, keyboards, cyberspace, it leaves you kind of cold, you know, yeah, it's information but does it feed my soul? And I think that's – I think that's what people are kind of looking for. So how or when or if they find it is kind of fascinating thing to wonder about. But I think that goes back to your questions about climate change. That's a story. So whose going to tell the story well enough for all of us to just go, Whoa, well, let's all work together to solve that problem? I might be off base but I'm fascinated by watching how we behave. I really am.

I: Yeah, that's very interesting. This is going to sound like a little bit of an nonsequitur but we've jumped around just –

G: I'm sorry –

I: No, it's been a great conversation, I've just worked things in where they fit and this one just isn't fitting quite right so I'm just going to ask it. Do you think your political views influence your views on climate change?

G: My political views. You mean whether I'm a certain party, political party?

I: Yeah, or just sort of your political beliefs, your beliefs about government, kind of political ideology.

G: You know, actually, that's a changing animal too, and I don't know enough about politics to put this in context, but some of the old – some of the old moderates from the GOP amaze me they were so progressive. They were so resource minded. And they've changed. Some of the extreme left wing Democrats are nut cases. So both extremes -- I'd like to take the best ideas from both extremes and meld them so that we'd have a country again, so we can actually move ahead with some confidence, some integrity, so I yearn for moderate Republicans and the old Republican party but I also think that we have to be Democratic and progressive in some of the things that we are changing more rapidly than we know how to deal with. We can't go back but we can't go ahead with thoughtless just because it's progressive; can't do that either. So I'm looking for the strength of the commons. I really want the strength of the commons. I want moderates from both parties to come together and agree that there's common ground. What does that common ground look like? How are we going to get there? And then make the appropriate policies. The country is at stake and a whole bunch of resources are at stake.

I: Yeah.

G: I remember Clinton – this just always struck me as amazing that the national Democratic convention when Obama was being elected, Clinton got up and said -- and if you travel much in the world, you'll see this, he was just crystal clear – he said the world looks to the United States not for an example of strength but for the strength of example. And that just blew me away. The world looks to us, when we're fighting and getting guns and polluting the country, they think that's what they should do too. But when we show them that we can come up with a way that makes better living and doesn't exploit the planet in the process, they think that's a good thing too. China is only doing faster and more efficiently what we've done for a hundred years, so whose going to not use their clothes washer for 30 years so that a Chinese village can have a light bulb? Yeah.

I: Interesting. Yeah. How would you describe your political views?

G: I would have to say I'm progressive moderate, yeah. Again, some of the most inspirational and thoughtful conservation legislation in the United States came from the GOP. I was amazed, looking back. So it's not like there's good guys and bad guys, it's just like both parties have had their merits and distractions. I also come to this conclusion I think sometimes you can be so far to the right, you're actually on the left. Honestly, it's just bizarre.

I: Yeah. That's very interesting. Would you say another issue that comes up a lot with energy is energy security and energy independence? Does that factor into your thought processes about kind of your energy efficiency actions or --

G: Yeah, hugely. It does hugely. I had a rare occasion to sit on the Capitol steps three years ago for Memorial Day. Memorial Day festivities in Washington, D.C. on the Mall, just blew me away. There's like a half million people there. Right next to us sat two – they were colonels, they were in the Army, and they had been attending a special department of defense yearlong retreat, and for lack of a

better word, I'm going to call it climate change and strategic defense school, and there were thousands of these guys all there. They'd all gone home, weatherized their homes, and bought Priuses. They were absolutely sobered up and convinced that this country's security as a country totally relies on energy conservation. That was interesting for me. They sat right next to me. And we just got in enough conversation to – they blew me away. You couldn't have picked more zealots for energy conservation than these guys. The Pentagon knows this. They know this hands down.

I: And do you feel like it factors in to your personal decisions or is that a motivating factor – is that a motivating factor for you?

G: Yeah, it is. It's not just to save money, it's to – I don't need it, I don't need to use this much of it. And if there is some left over for other people, that's a good thing.

I: Would you say climate change factors into your decisions on energy efficiency and that kind of thing?

G: No, I don't think I would. I mean, I know it sounds weird but I was doing this long before climate change ever came up as a buzz word. And I find it so interesting, Ali, all those years we were trying to talk about energy conservation, nobody was listening. I mean, what does that mean? Putting a sweater on, putting a thermal curtain over your window, can you measure the BTU loss through your windows? It's not sexy. Nobody does it. But climate change, whoa – now there's a buzz word. There's a story line. You see what I mean? It's just – it's bigger than any of us. It's just so big. But in its bigness, I think it's lost us as making operative behavioral changes. Oh, won't make any difference if I get a smaller car.

I: That's a very good point. So I have just a couple more questions, I've taken way more of your time, this has been a very interesting conversation so I really appreciate it. I'm sorry to have taken so much of your time. One of the things that people talk about here at least with climate change is how it will impact Missoula, and so Steve Running, for example, has done modeling of what will happen here, and the predictions suggest that Missoula will be more like the summer of 2007, which I don't know if you remember that, it was like the last really smoky, hot summer we had, and then so maybe we'd be looking at more fires and more smoke and more river closures, lower water flows, less snow, and I'm interested in what you think might happen here with climate change and how that would impact you.

G: Oh, all of that will happen, you know, periodic changes, but, no, I never look forward to summers here anymore, especially August. I actually fear it, you know, because I've had enough awful smoky summers and the fear of the whole town burning up, it's sobering. It's just a function of when the rains come and how wet things are and how dry things are. It's really just a matter of time for all of it, and that scares the hell out of me. I mean, I'm in this neighborhood and probably relatively safe here, but the place that I love to explore aren't, and the air I breathe in the summer when it's burning for eight weeks is kind of a lung-related issue. So, yeah, I'm not looking forward to that. This was an amazing summer.

I: Yeah, I know. We keep having these cool summers. You're getting used to it. It feels so good.

G: Yeah, last August, was it – not this August but a year ago August, we specifically went to Iceland to get out of here in August. I mean it was a trip we saved up for for a long time. I wanted to go to a cool place that had clean air and unusual geology and geothermal and all the things that I'm interested in and get of Missoula in August because I knew it was going to be a smoke bomb. Had a great

trip, learned a lot about frugality and living within your means. The Icelandic peoples as well. That was really interesting.

I: You've mentioned a few times traveling around the world or travels in other countries and you mentioned developing countries and how people are happy there and have so much less, and I'm interested in how kind of seeing how other people live has influenced your own thoughts and your own –

G: Oh, God, if I had one wish, it would be to send every graduating high school student in the United States to a developing country for a year, six months, they would do public service, it would be mandated that they would go. They could join the military – they should do that and then they can choose what they want to do. It's – I think it should be required. I think when you see how other people live in the world, it is the most eye opening experience you can ever imagine to understand how we live so out of sync with the world, and this is certainly enjoyable, this is great, you know, but – and I'm not saying this punishment, it's a huge eye opening experience. I learned so much more about life and living resources when I go there than they ever learn – and I had them here, I've had many foreign students and foreign guests in my house – and they're fascinated by us and they want to learn about us. I'm not stopped. I want to learn about what they're doing. And I go to their countries too. Unless we understand that, Ali, I don't think we're going to really – what's going to be the catalyst for change, really? Money, maybe; moral obligation, whether it's your spiritual community or whatever, maybe; and the equity issue, some people may just feel obligated to be more in touch with the rest of the world. But seeing it is so much more than just reading about it or talking – living it and, you know, going into huts with people and walking 10 miles to their school in the morning with them and waiting in line for two hours for a dripping water faucet to fill your 5-gallon bucket that you then carry on your head and walk for four miles to your hut. My God. Yeah. It's sobering. It really is. And how a pipe could make a world of difference to so many people in the world, a pipe, a pump, a wheel, a bicycle, just – it's amazing. But we won't see that. We won't see that unless enough of us, a generation of us goes to see this, really. So my wish to you would be get out there, find a way to get over there. And over there is anywhere that's not here to see and understand and then see how they're managing, how they're functioning. It's an enormous learning experience, really.

N6.7 Indigo

I: That's great. One, just kind of change of topic, but an issue that has a lot to do with energy of course is climate change, and I'm interested in what are your thoughts about climate change.

R: I wish we could turn back the clock. Yeah, my – I feel like it's happening, that those changes are happening, and I think that there's a possibility that the carbon dioxide rise in air is a really big part of it, but there also may be cycles that are in the earth that are also happening at the same time, and that's why it's so exaggerated. I don't think it's one thing or the other thing. But certainly man has influenced climate, man has – as soon as man, you know, stood up and lost his hair, he had to do things to his environment in order to survive and he's been doing it ever since. It's been a long many years.

I: It's interesting you're saying turn back the clock, can you say a little more about that?

R: It would be nice if, even if at the point before World War II, you know, before they went into the chemical stuff and atomic bomb and all those things, I mean, chemicals we put on our agriculture are the same chemicals that were nerve toxins of the war. I mean, if we could not have discovered that, or stayed with a more natural way of growing things, agriculture is one of my things, and it's like it would be nice if we could start making decisions from 1920, before the chemical industry and industrial revolution – well, before

that too – but just I think the chemical thing, changing chemicals and digging so deep for fuel could have been – if we could have foresee – I mean, other than Tennessee and Appalachian region for the farming – not farming, the mining – and then taking the mountaintops off. It was bad enough back then when I was there in the '60s, '70s too, but they were taking – they were mining and the people were sick and land was sick and the streams were red, it was just awful but now they're taking off whole mountaintops. It just makes your stomach turn. If we could not need that much fuel, you know, if we could not have gone global, you know, fighting a war across the seas probably – that whole process began. There was money to be made in the war and they were out to make it at any cost. They didn't know the natural cost. They didn't even think about it. It's not like they went, Oh, let's just go rape the earth, they didn't think of it that way. This is money. So the profit motive kind of, I think, my view, ruined the earth. We could have lived on this earth very happily in a, quote, unquote, lower state. So I guess the challenge now is that we have the technology so that we can live lighter so we'll start using technology. Telecommuting from home, we're not driving a car to work.

I: Right. It is sort of like a trans – beaming you up and beaming you down, sort of.

R: It really is. Because I can sit, basically sit in front of this computer and all the stuff on that and the server, I have access to, which is pretty cool.

I: What would you say is – what sort of concerns do you have about climate change, if any?

R: Well, the future. Yeah, it's like there's no way of preparing for it, except to get as many people as possible to stop using and this whole global economy is chewing up energy like crazy, that and the wars. We're in the wars because we need the oil. It's not for any other reason except we need the oil. So it's like what do you do? How do you prepare? So, again, it's listen to what's inside and do what you feel like you have to do and hope that that's going to send us in the right direction. The economies might collapse. The earth might collapse. And we have no idea, but I can't live in fear. Just have to do what I can do and be fed by what – face what happens when it happens, if it happens. I don't know.

I: What do you foresee, what kinds of things do you think we might be looking forward to, not to say, what do you think might happen, I guess I should say?

R: Erratic weather could get more erratic, you know, for out here the fires in the west, you know, which has been because – and the beetles are all caused by warming climate and not -- the moisture distribution is different. We don't have snow packs that keep things wet al.l summer anymore and we don't have the deep freezes that kill the beetles. The beetles have been with us for centuries. It's nothing new. It's just the conditions have changed. So in terms of, those sort of things, and that's why we did, you know, fire mitigation and got rid of, tried to get of as many (inaudible) trees as we could off the land so at least they couldn't – and then hopefully our gray water systems and snow catchment will at least keep the area, the 40 acres that we have, you know, the swales and everything, keep it more moist so it's like an isolated thing and you can't – all you can do is try to like mitigate the effects as much as possible. You can't stop anything. We have no idea – like our well is 465 feet deep, and it's really, really deep, so if the water goes away, the water goes away, and so catching surface water gets more and more important. I think that 465 feet probably means it's down in a vein, it's going to stay there. Nobody else is tapping it. But we will see.

I: That's interesting. Where would you say you get information about climate change?

R: Internet, a lot. I think the Internet mostly. I've gone to a lot of talks, you know, Steve Running's talks and all that kind of stuff. I think the Internet is the biggest place but I have a lot of people that I communicate with are also interested so they send links and stuff like that. I think that's the main thing. I mean newspapers probably have some, a little bit here and there but usually when a newspaper article comes up, you go to the Internet and go to the source of the information.

I: Interesting. Yeah –

R: And I don't get the Missoulian anymore because our mailbox is 2 miles away and there's no sense getting a daily paper you have to go 2 miles to get to it. It's not a morning paper, and it's a long walk. No, actually it's only a mile and a half if you go straight down the hill instead of taking the lane, take a half mile off. It's still a long walk before your morning coffee.

I: Right. Exactly. Exactly. I'm wondering what you think we should be doing about climate change.

R: Well, education, you know, people need to be educated. Change is really hard for people and you're raised with certain expectations, like houses that are warm, be able to pop in a car, means like habits, you're raised with those habits and changing them means something's wrong, right, like I had to change my diet because I had to go vegetarian because meat was making me sick, and that's just not how deeply engrained in my identity meat eating was. You just don't even know that until you have to change. And so when people say you can't drive your car – if somebody said you can only use X number gallons of gas per person per week, you know, they're going to fight. They are fighting. Look at what's going on what we call our government. There's no governing going on anymore. It's just – I don't know what to do, because it happens at the grass roots. People have to speak up and make changes in their lives and speak up and demand changes in the way we're regulating so that if you use more fuel than you're supposed to, you need to be paying more, through the pocketbook, that sort of thing.

I: I'm interested in you mentioned from the grass roots, and kind of where you – what you think in terms of what the government should be doing versus what individuals – or should and can, you know, how much can individuals do and what should they be doing, how much can government do and what should they be doing, and businesses, where do they –

R: I was going to say that corporations is the biggest piece. Corporations are running the government. Forget democracy. That's not what's happening. They are driving it. There's TV with all the ads that people want more, you know, so it's like – psychologically everybody's hooked on wanting more, American dream, all this stuff, which means consume, consume, consume, because our economy will fall apart if you don't consume. Bush's statement about it's patriotic to shop. Remember that? I mean, that's like – that's exactly the opposite of what needs to be done. So – and that's one of the things that Women's Voices for the Earth is working on is getting corporations to be responsible, getting them to label their stuff so at least you're not – you know if you're using chemicals that are going to kill you, you know, you know about it. You can make

that choice. That's what democracy – voting with your dollars. I think that's where we need to educate people to work on themselves in terms of wanting less or wanting things that are more important than things, relationships, you know, going out and enjoying nature, all the stuff you get for free, it's not – corporations can't tap into your pocketbook for those things. Traveling does not make you happy. Or whatever it is that they want you to buy. Latest clothes or latest gizmo or whatever it is. The question was more or less where do you think change is going to happen?

I: Yeah. Who should be doing what? What should individuals be doing? What should the government be doing?

R: Individuals changing their lifestyle and demand that, quote, unquote, products that fit into a lifestyle of living lighter. Of course, we have green cleaning parties. I don't know how much you've read about the Women's voices for the earth website, but, you know, like, okay, the corporations aren't getting us what we want, we'll make our own. It's just as good. We don't need to go out and buy that crap.

I: Yeah. That's great.

R: The idea of being proactive, and that's why I was supporting organic – I was on an organic certification committee, you know, started that organization until the state took it over. In terms of like organic means you don't use a chemical. So you don't have to fight the chemical companies, just don't buy it.

I: Vote with your pocketbook you said.

R: Vote with your pocketbook, yeah. That's the democracy I think at this point in this country. It's a capitalist country. Nothing to do about democracy and morals and all that crap.

I: That's interesting. Very interesting.

R: I'm kind of cynical about the government at this point.

I: Well, I don't blame you. Do you think your political views influence your perspective on climate change at all?

R: No, I think climate change has affected my political views. I think the political views – my political views is basically – not anybody but most of the people in the system are outside of real life, sort of like separated it from it, you know, people in D.C. , for instance – this is a generalization – a lot of them, you talk to politicians, people who live there, like their whole world is that political system, but it's not really in touch with what's going on every day out here on the land kind of life. It's a whole lot of winning and losing and all this crap going on. Look at what they're doing with the tax system. It's ridiculous. They should wipe out the tax system and put a progressive, you know, tax thing – forget al.l deductions and everything. You make a certain amount, you pay no taxes on your 20,000, or whatever, and then start taxing from there up, or something like that. It's like so complex and it's such a waste. It's totally inefficient. Speaking of being efficient. So many people in there feeding at the trough. All the lawyers and accountants and all that stuff that really don't need to be there but they make the laws so they feed themselves.

I: Yeah. How would you describe your political views in general?

R: I would say I'm a conservative progressive person. Conservative in terms of things should be efficient and spend as little as possible but progressive in terms of where the social needs are as important as anything. It's really, really important, more important than wars and all that kind of stuff. We need to defend our country not aggressively go out and spend money out there. Just like that shift, so sort of conservative in the old-fashioned way, not in what's being used now, not right wing. Progressive, conservative financial and progressive socially, I guess is the way to put it. It doesn't fit any party anymore. Maybe a natural law party. I've heard of that. I've read their little thing. It fits, they're just not very popular.

I: That's interesting. That's great. Do you think climate change played a role or plays a role in your personal choices about energy and transportation?

R: I would say it's like a symptom or something like that. It's secondary. I think for me it's – I've been aware of fuel consumption. I lived in California in early '80s, late '70s, early '80s, and it's like – just seeing all the cars and all the smog and all the junk, it's like, wow, and I lived 7 miles from work but I was able to ride my bike because I only had like 1 short little leg that I had to be on a highway, I could go through parks and, you know, bike paths and stuff all the way down to work and back, and so I did that pretty often when I didn't need my car for hauling milk and stuff from the store. Yeah, I think it's – climate change came after energy efficiency for me. Climate change has only been a buzz word for how many years? 5 years maybe? I know it's been in the works but it hasn't been public for more than 5 years. Do you think more than 5 years?

I: Yeah. Yeah, I mean, maybe from 2000, I don't know.

R: Maybe 10 years but on the outside – yeah. But being efficient with stuff has been – gas mileage and all that stuff has been important to me.

I: Before?

R: Before. And then doing the footprint thing, when I did that, I'm going, whoa, that was like in the mid '90s or something. It was a long time ago.

I: Doing your energy footprint or –

R: Yeah, energy footprint. It was on like the late '90s. Was I in school yet? I started school in '96. I bet it was late '90s that – I forgot what site it was but it was some website, I went to some talk somewhere and went on the website and did my energy footprint. I'm going, oh … and I was doing okay then because I had 3 kids living in the house, you know what I mean, so your footprint and the more people you live in a house, the better it is. Like we may have a big house but we have 7 people in there. So it really makes a big difference.

I: So this sort of predated the carbon footprint, it was more of an energy footprint?

R: No, it was a carbon footprint.

I: Getting into the issue of carbon.

R: Right. Yeah. Because energy is carbon.

I: Yeah. Interesting.

R: At least the energy we measure. Fuel consumption and – yeah.

I: Yeah. Do you think about energy security or energy independence at all as an important issue for you?

R: Yeah, it is. I think it's absolutely important. Energy independence does not mean we consume all you want. It means we conserve as much as possible and consume only what we have to and then we can be energy independent. It's real important that we conserve as much as we – to solve the problem as much as go out and look someplace else for energy, and then if we conserve enough, then the alternative energy sources work, you can get enough solar, you can get enough wind, you can get enough heat exchange if you don't use as much.

I: Yeah, that's a very good point.

R: Computers don't use as much so evidently it takes a lot to make them – so it's like you don't use much energy in your house than you use a computer, but evidently it takes a lot to make them then and then dispose of them, it takes a lot of energy too. That has to be watched.

I: Yeah, that's a good point. I'm interested – this is getting to the very end of the interview, I really appreciate your time – one of the things that people, especially like Steve Running, we have folks here who are working on climate change so they've made predictions about what will happen here in our area, and one of the predictions is that Missoula will be more like the summer of 2007, which was the last big fire season we had, very hot and dry, and that we will have less snow, lower snow line – excuse me, higher snow line –

R: Right, and would last for fewer months into the summer. Right, that whole thing, drying up.

I: Yeah, exactly. It's largely a water thing. And I'm wondering do you think those sorts of things will happen, and if so, how would they affect your life, how would they affect what you do? Would it affect your sort of quality of life?

R: Well, it definitely affects the quality of life, you know, and that's why I say with what other things we're doing as a village, so to speak, and even though it's only 7, is to try to mitigate some of the effects on the piece of land. Our land stewardship – it's really funny that we called our LC the Land Steward, LLC, that's before we had land or anything like that. We had no idea we were going to buy a piece of land that we were going to spend countless hours on the land trying to take care of it because it had a stream that we're trying to restore and, you know, been logged maybe 50 years ago so the trees – no, maybe more than that because the trees are like 70, 80 years old but they're too close together so you have to get al.l the dog hair out and – so trying to restore the land and I wish all the land in the world could be restored (laughs), but we can only do what we can

do and serve as a model and hope that helps and then results will – helpful that the government, the DNRC, NRCS – one of those things – anyway in the Bitterroot – we got a grant, you know, for $30,000, 15 was cash and 15 was in kind so we put in a ton of work for $15,000 but we – that was able to – we were able to have the watershed group come in and do intense work for a week, spend $15,000 in a week's worth coming in and doing all that, and then we also bough the chipper and stuff like that. So the government played a small role in that, and the government can play more role in that way of taking care of – helping homeowners and land stewards of all kinds to take care of the land and try to restore diversity and all that so the land can hold more moisture when it's there, it can hold it. The way it is now, it runs off.

I: Would you say climate change was in your mind when you were making those changes, doing that restoration work?

R: Partly –

I: You mentioned mitigation.

R: Yeah, I would think so. I think part because that was a fire mitigation grant that was taking care of the beetles is what we did, you know what I mean, because those two are hand in hand, and getting all the flammable stuff away from the house and all that stuff. I suppose, you know, probably more for Rick who does a lot of the forestry work than for me, because it's the right thing to do and having a forest be the way the forest is supposed to be is satisfying. You see them in the really, really big trees, we have a few really, really big trees, couple of them got hit and we had to take them down, but you see those big trees and you see the clearings around them and all the layers of brush, likes' there's one part of the meadow that is pretty natural, it wasn't messed up as much as the rest, and can see the layers of forest and deciduous and the bird life and all that, it's just like let's make all of our forest look like that. Make it healthy. We have plants, native plants in there. We have a native plant nursery down the road from us and they came up to give us a talk because we had people come up and (inaudible) educate ourselves about our land, and they have something like 90 to 100 plants that they raised as native plants to sell for people, and we have all of them on our land that, you know, that's already really, really diverse compared to other pieces of land. We just want to encourage it and get it so looks like a model piece of western land. The way it's supposed to look and the way it's supposed to act. Gathers water, wildlife, does all that stuff.

N6.8 Andrea

I: So one issue that comes up a lot, of course, with energy is climate change, and I'm wondering what your thoughts are on climate change.

A: There's a lot of work that needs to be done, I guess, would summarize it. That there's something going on and – yeah, we're all responsible for it and we need to work on it together.

I: And would you say, like, you feel climate change is already happening or going to happen or you're not so sure when it will happen? How do you feel on kind of the – what is going to happen and when it's going to happen?

A: I'd say we're in it, and that we have the opportunity to maybe we're at the pinnacle of opportunity to change it and to change – we're on a slippery slope. If we don't take that opportunity, then I believe that it will get much worse. And if we do take that opportunity, then we can maybe correct some of the errors that we've made.

I: And what do you think we're looking forward to? Maybe not looking forward to, what do you think is coming up for us?

A: I mean, in the grand scheme of things, the global warming issues, the warming issues and everything that's associated with that, whether it's ice caps melting and oceans rising, and for Montana, more forest fires and drier conditions and migration of animals. I mean, it just has such far-reaching effects. And even those one or two degree shifts can be huge in Alaska and Greenland, you know, just in places far away from here. The equator and island nations and storms and things just, again, one degree or two degree shifts can be huge to weather systems. I can see that happening. And I can see, you know, we can't repair the ozone holes but we can work towards not making them bigger.

I: Yeah. What would you say are kind of your concerns, your biggest concerns with climate change – it sounds like you're going to talk about it – I don't want to put that in your mouth.

A: The policies, processes, and procedures take too long. That people are trying and want to do the right thing but are letting legalities get in the way.

I: That's very interesting. Can you say a little more about that? That's a really interesting point.

A: I don't know. I haven't pondered it enough to formulate anything better. But, you know, some people need sticks and some people need carrots to do things. And some people do the right thing because it's the right thing and other people do the right thing because they're forced into it and begrudgingly. I mean, politics can be swayed so hugely in a lot of directions and have other forces that play, and I think our politicians need to stick their necks out and do the right thing because it's the right thing. But that process is flawed just in the amount of time that it takes. Like there's no fast action in legal form.

I: Yeah, that's very interesting. And that's actually a really good lead in to what I was interested in asking you about in terms of who should be doing what about climate change; what do you think in terms of individual action versus government action versus businesses, you know, how do you kind of see different – what should different players be doing?

A: I mean, I think we all have those – the responsibilities in every facet, so energy – I think of energy consumption as much at home as I do at work and encouraging staff and colleagues to conserve as much as possible. We all turn our computers off at night and use the programmable thermostat in the office just as much as I use it at home. And making sure first everyone's comfortable but, two, we're conserving as much as possible. My Christmas lights are on a timer or whatever that is. So I think it's small efforts that are multiplied by the number of people that are doing them. And then the more influence you have, whether it's your vote or your voice or, you know, the trickle down and the trickle up are equally as important, and it does make a difference. We see on a daily basis that one car trip off the road makes a difference in our air quality and it makes a

difference in gasoline consumption and it makes a difference in road maintenance and it makes – it can just snowball from just one – it's like one act of kindness or one pebble. So I think we all have the responsibility and we all need to do what we can when and where we can.

I: Yeah. That's great. And what do you think about government – you mentioned –

A: Policies –

I: Yeah, policies –

A: -- and programs?

I: Yeah, what are your thoughts on …

A: I think they have a role and, again, should be faster acting and more aggressive. [long pause, lots of thinking] The techno – technology is there to increase fuel efficiencies in automobiles, for example. And automobile makers only do it when they're mandated to do so. So let's not give them the leeway to make this change over the next 5 years, but, you know, the more – as soon as possible, because if you can do it for – I can't even pick a country – but if you can do it for Great Britain, but you're still making your nonfuel efficient cars for China, that's not good. You obviously have the technology, you obviously have the process, so if you had it and you're using it, you need to eliminate the crap. And whether it's United Nations that sets that or, you know, Kyoto protocol or whatever, I'm not sure of the control measures that need to be put in place but I think that standards need to be set and met. And that's where the government could push harder. Thinking about big business, does it create hardships? I don't know, that's kind of in the eye of the beholder. It seemed to create a benefit for people to turn in their clunkers for the cash for clunkers program and get rid of the old cars and that creates a drive and desire for the newer cars that are much more fuel efficient. I think there could be pros and cons to the policies and programs but I do think they need to be more stringent.

I: Yeah. That's interesting the hardship. Are you thinking of hardships for businesses or for the individual – the consumers or both or how are you seeing that?

A: Well, I mean, I could see the arguments for the businesses as well: "We don't have the technology to do that in every plant." This is the one plant that can function at that level. But what are they doing to bring the others up to speed? Are they or aren't they? Are they slowly using the profits from one to – do they have a plan that says over the next 5 years, yes, we're fueling all our plants up to this level of production or because they can get away with it are they leaving it be? So my thought is if you have a plan that says you're going to bring them all up to this level, that's great but if you're slacking, then you should be punished for that. If that creates a hardship for you, it's kind of your own fault. That's my balance that, yes, I can see you have to do it when it's feasible but make sure that you're doing it.

I: Yeah, that makes sense. And what are your thoughts on government standards for individuals versus businesses?

A: How would that apply?

I: Like you're saying, you know, government could impost stricter standards on businesses for the fuel economy, for example, of vehicles, how – what are you thoughts on government having standards for individual behavior as opposed to business – business behavior, I guess?

A: Yeah. I don't know what that individual behavior would be.

I: Like energy use or how much you could drive or what kind of car you could buy or …

A: Well, again, it could be influenced on the business side of things. It's like you can only buy what's available. So – and it doesn't say you have to get rid of what you have but, again, when that breaks down – I've been thinking about Missoula and kind of the fireplace issue that they did mandate, and that would be I guess an individual program –

I: Yeah. That's a good example.

A: So they mandated the changing or removal of wood burning stoves and I think that's for the benefit of everyone. I've lived in places where there's water restrictions and you can only water on Mondays and Thursdays. And I think it's for the benefit of everyone. It may not be convenient, it may not be what we want, but I think there are certain measures that need to be taken because some people either are naïve, they're going to do what they want anyway, and they need – again, going back to sticks and carrots, some people need to be told what to do, either because they don't know any better or because they would choose to do otherwise.

I: Yeah, that's a good point.

A: Some guidance. Yeah, guidance, regulations, otherwise I think we do have a responsibility to take care of what we've got.

I: That's a good point. Very well explained. I'm wondering two things back to kind of just climate change in general. Do you think we'll see impacts of climate change in our lifetime -- we're kind of jumping around a little bit, so sorry this question sounds out of order – do you think we'll see impacts in our lifetime or is it more our kid's lifetime or further on even or… What do you think in terms of timing?

A: I think – I mean, we already see some of them. So will we see more? In my lifetime, the realization that the holes in the ozone layer over Australia, I mean, that's a good example, maybe not necessarily climate change but the impacts that we're having on the climate and our atmosphere. So will that increase or decrease? I don't know. Like I said, I think we're at the kind of critical point of making those decisions. And how long will it take to rectify those? I'm not smart enough to tell you that [laughs].

I: Well, I think there are many who couldn't tell us that.

A: It will be interesting to see what happens.

I: Where would you say you get your information about climate change?

A: Again, kind of all over the place; media sources, friends, colleagues – yeah, just a –

I: Not one in particular.

A: Not one in particular, just a variety.

I: And I'm wondering if you think your political view influence your thoughts about climate change, if the two are linked for you?

(Interruption – question repeated)

A: I've never considered them linked but it's possible. Yeah.

I: But not immediately in your mind.

A: No.

I: How would you describe your political views, just kind of basically?

A: Green [laughs, pauses]. Yeah. Very much more liberal and – yeah. Definitely in the left, far to left, but not extremist.

I: Yeah. That's great.

A: If that's general enough description for you.

I: Yeah, that's great. I'm wondering if you – did you think about or do you think about climate change at all when you're making decisions about personal energy use in transportation, is that kind of a primary motivator or in your mind at all or not so much, it's other things or …

A: To me it's all related, you know, again, going back to the kind of the essence of it, it's like I'm doing this for the environment and a side benefit or an additional benefit is the cost savings. So they're hand and hand type thing. So do I consciously go, I'm turning these lights off to save the world? No, but what's motivated that habit is definitely a reduction in consumption of fossil fuels and oil and all of that.

I: That's great. I'm wondering do you – is energy independence or energy security important for you or a motivating force for you at all?

A: To be independent from foreign oil?

I: Yeah.

A: That issue? I would say if we didn't have to fight over it, it wouldn't be, because I'm all for world trade and a global economy but if it's going to kill people, no. I mean I could – if there are sources there available that don't cause that conflict.

I: That's a good point.

A: So – yeah.

I: That's a very, very good point. Are there things that you've done in response to climate change or other thoughts about climate change that we haven't discussed that are important to you? It's fine if there's not, I just want to make sure. Sometimes I don't ask the right questions.

A: Yeah. I mean, I've considered and given some thought to the, like the cap and trade legislation, and I think it's important to continue to move that conversation forward. Again, that's kind of the imposition of programs and policies. So I'm aware of that. I don't know if I'm such a fan of offsets because it seems like it gives permission to be bad [laughs]. Not bad in the – I don't know.

I: That's an interesting point –

A: And yet that allowing offsets allows for that industry to grow and develop, so I see pros and cons to both of those two. Yeah, I guess those are other climate conversations.

I: Those are both good points. I'm very interested in how people will respond to climate change at the local level, and so some things – we have actually a lot of information about what might happen here probably because we have folks at the University who are doing modeling and all this other stuff, so some of the predictions are that the summer of 2007 – I think that may be one of your first summers here – it was my first summer here – it was very hot and smoky –

A: Very smoky.

I: So that's – and low water, low stream flows, that kind of thing, and then less snow, obviously. And I'm wondering how those – if those sorts of things were to happen on a regular basis, how they would impact you, would they impact your quality of life?

A: I definitely think so. I mean, as a person who wants to be outside and hiking and biking and enjoying being outside, not inside, it was very difficult, especially with small children as well, being in a restricted category of sensitive lungs. It would impact how we do things or what we would do. If it was an ongoing thing, may even encourage us to leave this area for a different area that had better air quality and better conditions.

I: That's very interesting.

A: If that's how it was all the time, I wouldn't be here.

I: Yep.

A: Because that's not – and, again, not why we're here. Why we're here is to hike and bike and be outside and the quality of life that Missoula can offer. And I was here back in early 2000 when the air quality hadn't reached as good as it is now. I mean, that was 10, 11 years ago where woodstoves were still being phased out, and I would say we had many more inversion days, things like that, even I hear other people talk like, Oh, it was so awful back then. And I don't know that we would have selected to move here if it was like that now. And going back to like can we make improvements and will they change things and think even small things change – can change over time. So changes over my lifetime, possible, yeah. I mean, just – I guess that's one great example of how locally we made some decisions and it has changed here.

I: Yeah, that's a really good example. I never saw it. I wasn't here. That's interesting you had the opportunity to visit or however you were here to see that change.

A: Yeah, to be here and back again and go, Oh, it's much cleaner now, even though, again, this year, we've had some inversion days. We could get a giant fan [laughs].

I: Hellgate winds sometimes feel sort of like they should be accomplishing more than they are.

A: Yeah, exactly.

I: That's good. I'm wondering if you think there's anything we missed in terms of climate change, energy use, transportation, and again it's fine if there's not, just to make sure I give you a chance to –

A: Yeah, I mean, I think that in the grand scheme of things, it's about making conscious decisions and forming those habits and teaching, I mean, for me my kids, why I'm choosing the way I choose. So whether it's choosing seasonal fruit or choosing to only have one TV in our house and one car and taking the bus and riding our bikes, that the education is for me not only part of my job out in the community but it's also a personal commitment and a commitment to my family and brining up that next generation. I think we do things too often without thinking about them or picking the easy way. And some things aren't easy or aren't as convenient. I think – I don't know, my generation, the next generation is too much about easy, give me it, whereas our parents' generation or the generations before really had to work for what they had and then were more apt to take care of it.

I: Yeah, that's a very good point.

A: Maybe I'm too optimistic or – I don't know, have this utopia in mind that we can achieve but who knows what will happen.

N6.9 Maya

M: Yeah, I hope it's not. Maybe it will be just a short trend. I don't know. But I do think we have to be careful – in my mind, I think it's really important for educators to always add while they're giving kids the bad statistics of where the world is going to add that we really don't know. There's a lot of things we really don't know about what our behavior changes can do. So there's some sense of hope or something, I mean, to give people the real doom and gloom all the time is just – doesn't help people be very productive. It's like well we're going anyway folks [sarcastic, laughing].

I: Exactly. That's hopelessness you mentioned.

M: Yeah, I think you really have to give people the sense of hope as you give them the bad news. I watch a lot of different websites. The 350 folks and stuff, and he's pretty good – what's that guy's name that does the 350.org?

I: Is it Erlich (sp?)?

M: This guy is really good.

I: McKibbon (sp?).

M: Yeah, he's actually pretty good. He's got a little positive – it's an urgent but yet positive message. Where I think like Al Gore and some of the other people have kind of gone to just urgent – past urgent, hopelessness that I don't think is very helpful to young people, in particular.

…

I: I'm wondering, one of the issues that of course has to do with energy is climate change, and I'm wondering kind of what your thoughts are on the whole issue.

M: Yeah, we're headed in the wrong direction. We've got to get with it in a hurry. There are a lot of things that need to change that seem so simple that could change to help with climate change, like white roofs. Mostly for me – for me, because this is my work environment, trains, and people want trains, people want – once they use a bus, they like using the bus. We really – that's a third of the pollution of the problem is transportation. We could cure that very quickly with providing communities with better transportation and connecting communities and –

I: And who would you say needs to be – who should be doing, playing a larger role and then also who do you think really will if you had to say, you know, government, businesses, individual behavior change –

M: Government has to take over transportation. We have to. We have to invest in public transportation like any other civilization has ever done. It's a utility and that we've decided is to be personalized, which is a silly way to go about it. It forces – well, I could go on and on about transportation because of land use and blah, blah, that we could make a lot of really bad mistakes because of our transportation that we did have in place that we threw away because oil trumped everything.

I: Yeah, that's a good point.

M: Do you ever watch the electric car?

I: Yeah, who killed the electric car? Yeah. That's coming back up again because now GM is actually coming out with an –

M: An electric car.

I: Yeah, a plug in. It's interesting how things –

M: Is an electric car what we really want? Is that all the better we can do? Why don't we have solar cars? But ultimately even if we found the perfect car that, you know, ran more efficiently, you still have to park it, and once you're parking it and you still have to have a place to drive it, and those two things take up a lot of land space and they cause a lot of wasted energy use to get from point A to point B. Even if you do that, that is not the end-all solution. That's my religion.

I: Yeah, that's a very good point. And what would you say in terms of kind of the role of government in general with climate change compared to the role of individual behavior change, kind of how do you see those two –

M: Absolutely. You have to have a leader in a country that -- I believe there has to be really strong leaders to motivate people to want to take, you know, your victory gardens; you need to be the kind of leader that inspires people to do the right thing. People do need strong leaders. I think the government – I mean, it can go the other way around, and that's what we're trying to do in this country, like organic foods, you know, people can spend their dollar in a way to force corporations to move to better or more responsible ways of doing things. And we're doing that. It's just very slow and I believe with climate change we really don't have time. We really need a little stronger, faster movement than what we can get through letting the market direct the change.

I: So you would say that there's a strong role for government to push that –

M: Yeah, way stronger role.

I: -- make that quicker change.

M: Yeah. And who's the government at this point but large corporations, so I don't know.

I: That's an interesting point. What do you think – what concerns you about climate change? What are the things that make you concerned about it, in general, if anything?

M: Well, I mean, I honestly believe that we're working ourselves out of a place to live by not doing something about it. I mean, not for me, not for my generation but I worry about my kids and my kids' kids, future generations certainly.

I: What do you think is going to happen? What are your, kind of, vision of where we're headed?

M: I don't know. I think our weather is going to get really wild. I think our weather is getting really wild. I think there will be a lot of unknown. I don't think anybody knows. Does anybody know what's going to happen? I don't think so.

I: Yeah. So uncertainty, kind of, is a –

M: Yeah.

I: Do you think -- when you think about climate change, do you think things – what's the kind of time frame that you think of? Things are already changing? Things will change in a hundred years –

M: I believe things are already changing. I don't see how anybody could say things aren't changing. There are people that say that.

I: Yeah. So it's kind of immediate as opposed to off in the future kind of thing or –

M: Well, I don't see – I don't feel like tomorrow the world is going to end or anything, but I foresee some serious earth changes coming about in the next hundred years, 50 to 100

years but I could be wrong, it could be sooner than that, some say sooner. I don't know. You got me.

ALISON : It's hard to say. I agree.

M: But I think, you know, how can we not choose to live responsibly? I don't know.

I: That's interesting. That's – if you're willing to kind of go a little deeper.

M: I mean, how can we not choose to think that everything has a place on this earth and we're just one of them? Why do we think we're the king of the earth? You know what I'm saying? I just don't feel like we're the king of the earth. So I think our responsibility is to be part of what's around us and what we enjoy and love, everybody loves the beauty of the earth, why don't you want to be part of that?

I: Yeah.

M: I always thought it was interesting that George Bush – I've heard this, don't know this as a fact – I've heard has this completely sustainable place that he lives on so, interestingly enough, you know, as long as we just take care of me in this small little space, you know, but that to me, why would you want to just take care of one small – why wouldn't you want to take a broader so you can travel and see other things and be part of the rest of this great place we live in.

I: Yeah. That's interesting.

M: We're really selfish.

I: Yeah, I know. That's true. That's a good point. Where would you say you get information about climate change?

M: Mostly?

I: Yeah, in general.

M: Internet, mostly. Probably initially in books and now the Internet.

I: Yeah, that makes sense. We've talked a little bit about this but what would you say we should be doing about climate change?

M: As much as we can. We should try it all, whatever we think will help.

I: Do you have any kind of specific things that come to your mind that we should be –

M: Yes. We should live in –

I: -- priorities, kind of –

M: Yeah, my priorities would be that we should outlaw – no people would not like that – outlaw one acre plots, outlaw five acre plots. Really zone communities so that we live closer together and that we – really get serious about our transportation issues and invest

in them and I think we should tax the hell out of fuel so that we can generate enough funding to do something different, and not just tax the hell out of fuel, but we need to – which is very unpopular stance – I believe we need to invest in community and so we – the whole general idea that we don't want to pay taxes – taxes are how we pay to help each other and we need to buck up and quit being so selfish.

I: Yeah, that's a good way to put it. I like that. Do you think your political view influence your thoughts about climate change at all?

M: Absolutely.

I: How, would you say?

M: Well, I would say I'm a socialist so, yeah. I think my political views definitely influence my – or it might be the other way around. I'm not sure. But one influences the other.

I: In terms of it influences what you think we should be doing about the issue of climate –

M: And how we can do something about the issue, yes.

I: Do you think it influences your initial belief that climate change is happening or –

M: I don't know. Maybe, because I'm more willing to read information. I went to a city council meeting and there was a gentleman there that said it's a huge conspiracy and that there's no such thing as climate change and he read a four-page thing about – and he's a young person – about how there's no such thing and it's a big – so I don't know where I was going with that point but –

I: Because you're willing to read other –

M: I believe I'm more willing to read things that come from environmental science, people that are liberal and open in my mind, liberal and open. I'm more willing to read those than I am willing to read things that come from the right that say, you know, there's plenty of oil and – so I don't read those things and so I believe that – yeah, I believe your political affiliation definitely influences your thought process about – because of where it will take you and what you will read and what you will – the information you'll seek.

I: Yeah, that's a very good point. That makes a lot of sense. Do you think about climate change at all when you're making your own personal choices about transportation or residential energy use?

M: Yes. Yes, I do.

I: Would you say it motivates – climate change is a motivating factor in your decision-making? How would you say it enters in?

M: Yeah. Yeah. Climate change, I'm not so certain climate change but I would say environment is important to me. So climate change in itself – and I think that is important. I think climate change is something that is pretty out there for most people because more out there than your current environment. The climate change seems to be kind of the more popular thing to discuss than – like even recycling or anything like that

for people these days, they're more willing to talk about climate change and maybe it's because it has less personal responsibility.

I: That's very interesting. Yeah, maybe you could speak a little more your thoughts on that. That's very interesting..

M: Really, honestly, just saying that to you, that's why, it's because it really has less personal responsibility. Climate change is something big out there for a lot of people where the environmental movement was really personal, you know, we're going to pick organic food, we're going to, you know, I think it's really important to bring it down to an individual – so that there is something you personally can do to make a difference in the way you shop and the way that you eat, live and drive, or don't.

I: So would you say that's why you kind of said, well, climate change, yes; no on the motivation thing, do you feel it's too far out there to be motivational or –

M: Well, I do, somehow I do. I mean, personally, it's important to know. It's the big picture. But you can't do much about the big picture as a single person. I think it does add to hopelessness. I'm glad you asked me that question, because I hadn't really thought about it that way. I think it is true. I think we need to make – how you give people hope is to give them something they can personally do to be different that I just honestly think might have missed this round of students.

I: That's really interesting. Kind of right back where we started.

M: Yeah. Yeah.

I: I like that. Do you think at all about energy security or energy independence? Is that an important issue, like being independent from foreign oil or that kind of thing?

M: Yeah, particularly here. I mean, food independence, yeah, I think it's very important.

I: And would you say that plays a role in your personal decision choices or –

M: Yes. I mean, it played – again, it played the role in where I live so in case I can't drive, I know I can still get to the things I want to get to. In case I can't afford to leave town, I know I'm still close to recreation. I'm still close to -- yeah. I think it --

I: Plays a role.

M: -- plays a role.

I: Is there anything else that you've either done in response to climate change or that you're thinking about climate change that we haven't covered that you feel like we should talk about?

M: Uh-uh.

I: That's fair. I just like to ask.

M: We hit it. It was fun.

I: It was a good discussion. So I just have a couple of final questions. I'm wondering, you know, there's been a fair amount of work, probably because we're here at the University, about what happened in Missoula as climate changes, and it's things like – were you here in the summer of 2007, it was the last sort of really hot, fire – high fire summer –

M: Yeah. Ugh, yeah.

I: -- low water flows and stream closures and that kind of thing, so that's kind of what one set of predictions for Missoula looks like. And then in the winter, less snow and more rain, that kind of thing. And I'm wondering how that would affect you; would it impact your quality of life if it were to be like that more often or kind of how would that –

M: Yeah. I think one of the reasons I moved back to Montana after kind of moving around the west was that I really couldn't stand not being close to water. That would be – that would be really awful. It really was frightening to me to see the rivers get that low and the forest fires are just ugh–

I: What do you think your response would be if it were like that all the time?

M: Well, I think I would have to move to a coast.

I: Yeah.

M: Because I just need to be around water. There's something about it that makes me feel comfortable or something.

N6.10 Glen

G: That's great. Terrific. So one issue that comes up a lot when you talk about energy is climate change, and I'm wondering what your thoughts are on climate change.

R: Personally, I believe in it. I wholeheartedly do. Professionally, I have to be very careful about throwing that term around because there is a lot of backlash against that term right now. As far as programmatically, we have to be careful where we tread if we want to – I guess this is professionally and me a little bit personally because I see kind of public opinion as a bell curve, and this isn't anything rocket science or brilliant, but like, you know, you have your people who are never going to tune into your message, you have your people that are on board no matter what, but really who you're trying to persuade is everyone else in the middle who is much greater, and so I feel like you have a better chance by addressing issues and trying to kind of educate the public if you stay away from things that are going to turn people away. And so with energy, I feel like they're other triggers that aren't as controversial that I would prefer to focus on and then once you pull more of that middle group in this way, I feel like then you let them on their own make their decision about climate change, per se, if that makes any sense.

G: Yeah.

R: And so, personally, I have no problem with it. I think it's a real thing. And on my soapbox, I kind of think fearful if you don't. And, again, I'm not even outspoken like that with my friends, necessarily. I tend to take a different approach. But, yeah, professionally, because of the backlash and certainly the kind of – it's not the general

public perception but sort of in that – in the mass media right now, it's way more – it sells more ads to point out, you know, all the scathing reports about climate change and sort of debunk it. I feel like there's still a lots of green stories and messages in the media but they don't necessarily have to do with climate change so much anymore, like specifically.

G: That's very interesting.

R: And if they do, I feel like they're negative.

G: That's a good point.

R: Yeah.

G: From a personal point of view, are you concerned about – would you say you're concerned about climate change?

R: Yes.

G: What makes you concerned? What are the sort of concerns you have?

R: I mean, all of the things that go with it, you know, rising temperatures, widespread draught, rising water and flooding places that we inhabit right now, and really just the existence of humanity, and I know that that can be over thousands and thousands and thousands of years but, you know, I think it could spell disaster and create lots of strife in the world. So those are the things that concern me. I know that sounds really fatalistic but I feel like that that's where we're kind of going in. I have lots of hope too because I think that we have lots of technology, I feel like lots of brilliant people are working on more efficient systems. And if it's not for climate change, I do believe, and we're lucky, that in the end it's also going to lead to a whole new industry, I mean, it is, you know, this is old news but like I'm glad there's some money to be made in new efficiencies and new technology and I'm glad that also there's the whole idea of kind of corporate social responsibility too and that some major players have signed on and that there is momentum to do these things to make money, to save money. Yeah.

G: Yeah, that's really good points. And actually one of my questions I was going to ask is, who do – if you were going to sort of think about what we should be doing – we, collectively – what we should be doing about climate change, where do you fall in terms of, you know, should business be leading government, individual behavior change or kind of how you see those three players.

R: I see them all as having to be on board. As far as business and government, I think it's a close – if I had to choose one, I think it would be close but I think in the end, business probably has the most power. And I think that that's because, I mean, we all like money. They have tons of capital, government has tons of capital too but it's public capital which is highly scrutinized, and elected officials can change so rapidly and the process of legislation can be so slow and excruciating that I think business, the business community is agile and I think really for widespread change I would have to choose them, although I think government plays an extremely important role to provide incentives, especially tax breaks I know have motivated tons of people to do things, as well as – I think government, and I work in local government, should feel responsible too for setting the tone and leading by example and so, you know, I think that this needs to be on their radar

and they need to actively be involved. But if you're asking me to choose sort of – if I had to choose one entity that needs to move this along, I would say probably the business community. Although I think if certain legislation could pass, it would be huge, especially if something like cap and trade, but I don't – for all those reasons I said, because the debate can be so excruciating and the process is so hard to get through, and it's designed that way, I mean, that's the way our political system is designed. And then also because of this pendulum that, to me, seems to have swung – it swung so far when Obama was elected and now I feel like it's swinging just as far back and we've already followed the cap and trade story. I mean, even passing like the transportation bill, which is far less controversial than cap and trade is, I mean, it's kind of just lame duck right now in Washington. And so I see businesses having to get it done right now.

G: That's very interesting.

R: Having that said, again, I feel like if something like cap and trade could pass, it would be extremely powerful and change the entire, I mean, again, you're putting price on carbon, and if you do – yeah, it would not only cause people to pay attention who otherwise maybe wouldn't but it would create a whole new revenue source to pump back into these actions from the public standpoint and so –

G: Yeah, that's a very good point.

R: But if I had to choose right now, it would be the business community. Again, on top of everything I've already said, people want jobs and they need jobs and – it's funny too, I'm kind of going around and around, but like, you know, I follow energy issues in government right now, and what I'm hearing is the only way some of these green – to push through some of this green spending, like the grants that I'm administering now are called Energy Efficiency and Conservation Block Grants. They were not refunded, if you will, for FY2011. They're to be up for discussion to be refunded in FY2012, fiscal year. And the outlook for them to be funded is grim at best just because of the overall feeling about government spending right now. But the only way I'm hearing that it will be, or the angle that the people who are lobbying for this, is that it creates jobs. That's the only viable argument right now on that in that venue.

G: Yeah. Interesting.

R: That's another reason I choose business.

G: Yeah. And what about individuals, where do you think their role is in –

R: I think that – I think it's important, for sure. Yeah, I guess I don't know – I think cumulatively individuals have a lot of power. Yeah, I don't think that – there's just not as much clout there I don't think as government or business has but I think it's super important.

G: That's great. Those are really good answers.

R: I don't know if that's what you're looking for.

G: Very clear answers.

R: And one of my –

G: I'm not looking for any – I just want to know what you think.

R: Right. But one of my programs at work is called the Green Blocks Program, and it's an individual energy efficiency program. It's a partnership with Northwestern Energy and Mountain Water, and so obviously it's extremely important. I'm not debating that. I just think it can't go too far without those other sectors leading the way.

G: Yeah. That makes a lot of sense. I'm wondering if you think your political views influence your thoughts about climate change at all?

R: Absolutely.

G: How so?

R: Yeah, I mean, I'm a registered Democrat. I'm a self-professed, you know, progressive, which is a dirty word – not necessarily, it depends on who you talk to – you just can't read the comments in the Missoulian. Do you read the Missoulian online at all?

G: I do, and I read the comments too so I know kind of just what you're talking about.

R: You can't stop reading the comments even though they just piss me off every day. But, yeah, I feel like that's the vocal minority, honestly, but I tend to pay attention to that. I mean, not just individuals but everyone, I think. I think I kind of mentioned that earlier. But, anyway, what was the question, I guess?

G: If your political views influence your thoughts about climate change –

R: Yes.

G: -- and how so?

R: They do. I mean, because, again, liberal and progressive politics, all of this is part of that agenda, which is another reason why I've identified myself as a liberal or progressive because those are things that I want to see happen in the world. And so, yeah, I will vote based on someone who's going to at least say they're going to push things along.

G: Sure. That makes a lot of sense. Do you think about climate change at all when you're making your personal choices about energy use or transportation?

R: Absolutely. It kind of goes back to, again, that it makes me feel good I'm doing it, not just from the health perspective but I do think about when I ride my bike, you know, the greenhouse gas emissions I'm not putting into the world or the gasoline/oil industry that, you know, I'm not supporting that day because of what they do to our natural world to extract these things and/or deplete a resource forever that will not be there again. So, yes, definitely. I want to make choices to reduce my footprint that I think helps with climate change, and so, yeah, I think about it.

G: Okay. Great. Another issue that comes up a lot in terms of energy is energy security or energy independence. Is that a concern for you or something that you think about very much?

R: You know, obviously, again, this won't be a surprise having said I'm – my politics and probably just my whole vibe – I don't like war. War sucks. No one likes war no matter what your politics, but – and I think that has a lot to do with energy security. The things I don't like about energy security are I don't like the answer being something like tar sands or ANWAR, you know, more drilling domestically or whatever. If we're going to talk about energy security, I'd like to talk about investing in renewables or other technology that we may not even know about. So I guess it doesn't influence me as much because I feel like what I hear mostly is that feeds the argument that we need to do, more domestic drilling and more natural resource extraction on the home front even if it jeopardizes our natural environment.

G: Yeah. That's a very good point. Is there anything else you've done in response to climate change that we didn't talk about that you feel like we should cover, just before we leave the topic? It's fine if there's not.

R: Yeah, I don't think so. I mean, I just keep an eye on it and I try to participate when I can and, again, make personal decisions to not contribute to climate change.

G: Yeah. Sure. Actually I have but last little set of questions on climate change and then we're basically done. So one of the things that – well there's been a lot of research about what will happen here with climate change, probably because we have climate change researchers at the University, etc, and so a lot of what they expect is like the summer of 2007 – do you remember that summer? It was our last like heavy fire summer –

R: Yep.

G: -- real smoky, hot –

R: The summer my son was born.

G: Yes. Right. And so then it will be more like that in the summer, low water, fishing closures, more smoke, more fire and then less snow and more rain in the winter, and I'm wondering if that would impact your quality of life –

R: Hugely, and it has. I remember summer of 2003 was another gross summer and our window for that type of recreation was so small here in Montana that those were not great years because we were smoked in and the rivers were closed. So, yeah, absolutely. One of the – you might be familiar with the term like "mountain tax", you know, we live here, the cost of living is super expensive, jobs don't pay well at all but you always come back to "but the quality of life is so great here" but the quality of life that we talk about are all of those things that are directly jeopardized by climate change, in my opinion, and so – yeah, I mean, I guess you could even say it's a very dramatic statement but it would challenge the whole reason that I live here.

N6.11 Paul

I: That's very interesting. One of the major issues that comes up when you talk about energy, of course, is climate change. I'm interested to know your take on climate change, what are your thoughts about it?

P: Climate change is very real, very ah…threatening. I think there's a lot science out there that kind of points in a direction that we are heading in that is something we've never seen before. And, I think that there's been a lot of, recent studies in particular that have kind of swayed the opinions, of the critical scientists, that think that, um, that maybe this isn't happening. I think my perspective is that we have no idea how climate change is going to impact the environment. We can do the best we can to guess, but for me, in a kind of a risk assessment model, you know looking at whether it's worth it to just keep on going and see what happens. It would make sense to mitigate some of the impacts we are having on the environment, and the ways those things impact climate change. Stop the heavy gas use, burning of fossil fuels, deforestation and all these things that are reducing the amount of carbon sinks on the planet and increasing the amount of CO2 in the atmosphere as well as other green house gases. Just last week I saw, I was watching a video of some scientists that the republicans brought in. And I don't think it's a partisan issue, but the republicans in Congress brought in some scientists, experts they called them, to talk about climate change, and actually of them were economists and stuff like that, which is important but maybe not when you are discussing science. And they said, even their scientists were like, actually this new research even we are kind of changing our mind about, we think this is something we need to be more prepared for. I think that's really telling. I don't think the democrats get it either; I don't think it's a party line issue. If anyone thinks it is then we always just point them to what's happening in Congress right now which is nothing. But it's something that is becoming more and more real the more we look at the situation and the more we realize how bad it's becoming.

I: Yeah. What do you think will happen? What do you think the affects will be of climate change?

P: I don't know. I think that, that's a very scientific question, you know, it's not necessarily in my opinion. I, um, I think, from what I know it looks like drought has increased in areas like Montana while rainfall is going to increase in others. Al Gore was saying on Friday, in a speech that I was attending, that the, with increased temperatures in some areas is you're going to have really big rainfalls in some areas while droughts in others. Floods are going to increase. I don't know. I haven't seen reports that one thing is going to happen over the other, but I just think that we are going to see a huge destabilization of the climate in general, and see events that we weren't prepared for that our infrastructure is not designed to take on. And more importantly I would say that other species on the planet are not designed, what I mean is not adapted to handle. And, um, by not being adapted they're real likely to go extinct. Now we are talking about biodiversity, now we are talking about the very things that we depend upon to keep our society going like insect biodiversity which helps pollinate all of our crops. When your main source of food is product of pollinization, pollinization—is that a word?

I: I think so.

P: Okay, we'll go with it. From pollinization or from all kinds of things—clean water which is filtered through these rock quarries, these old rock areas, or whatever, clearly this is not an area that I know much about. There are a lot of ecosystems services that we need to depend on and I don't think we are really keeping those in mind. I think there is a really good study that talked about how much ecosystem services were really worth per year and it was like 36 trillion dollars. I think that was kind of a low ball estimate. It was trying to estimate how much of our economy is built on those that we don't keep in mind, right? The world economy is like

what, 12 trillion, maybe more, 20 some odd trillion. Not even close that we are getting from environmental things, and we are carving that out, you know, so it's kind of like, okay, smart? Maybe not.

I: That's a very good point. Would you say you're concerned about climate change?

P: I'd say very concerned. Yeah.

I: What makes you concerned?

P: Inaction. The lack of, probably I'd say the first thing that makes me concerned is the lack of understanding about the science of climate change. Which I don't think the science of climate change is straight forward nor is it conclusive. But I think that it is a step towards, science never proves anything is right but we can sure get close to thinking some things could happen. That's probably the scariest. The second one is not realizing the impacts that are happening in real time from climate change related activities. That's where the social justice stuff comes in you know. Kind of not recognizing that this is a system that is really putting a lot of pressure on communities that are already in bad situations probably because of the situation they were in economically when we started extracting fossil fuels and burning them and working with them. But it's pushing that system even further forward and not recognizing that's really important, er is bad and destructive. Third thing is inaction in terms of policy. That's the way we've got to solve the problem and with the Obama administration not putting forward a climate change bill in their first three years of being in office and no climate change bill in sight on Capitol Hill, I think we are seeing a lot of young people get frustrated with the political process. Being someone who doesn't really want to do nonviolent direct action, or any direct action, but thinks that we should be able to do it democratically and realizing that we have a government that is just broken down and is worried more about spending during a recession, which spending is always important, being financially responsible important is always important. Maybe not as important as when people don't have work and aren't employed. I think that's something that worries me even more. We're worried about issues that maybe are not even real issues, and yet they've kind of been politically portrayed as the number one issue right now.

I: That's very interesting.

P: And, not seeing the link between all of them in that pushing for green technology means more jobs and more innovation and more competition worldwide.

I: Yeah, that's very interesting, that's a good point. Would you say climate change will impact you personally in your life time, or what do you think?

P: Sure, sure, absolutely. If I lived in the southwest I would say it's impacting me pretty much now. Montana, fire seasons are out of control. I think we had a really good snow here this year but there's also been some rainy days in the middle of winter which hurt snow pack quite a bit. The nine hottest days on record took place in the last 12 years and it's hard to think that things aren't changing based on the scientific evidence that I've seen. Just looking at rainfall differences in Montana alone, there are areas that will be hit harder than others. Islands will disappear, probably in my life time. But, even in Montana we'll definitely feel the impact.

I: I'm wondering where would you say you obviously have a lot of information about climate change, where in general would you say you get your information from climate change, kind of in a general way, like news.

P: The community I suppose, scientific literature is something I'm really in to and that's because I'm a biology major and so whenever I have a project about something I like to tailor it to one of the many environmental areas that you could focus on. I'd say classes in some ways talk a little bit about climate change. Not as much as you'd ever like and I'm not a climate change studies minor. Maybe I would get that more if I was in that program. I don't know just general reading, lots of reading, lots of work.

I: What do you think we should be doing about climate change?

P: I think we should, oomph, ultimately I think that we gotta find way to control carbon emissions so looking at a carbon tax is one option and I think that'd be ideal. But unfortunately we get tied up in to whether taxes are good or bad. I think that finding a way to regulate carbon, that's the ultimate step, first step. I think there's also a need to reexamine the way that we work together. I heard a really interesting quote, I couldn't tell you who said it, but they said you're kind of calling for the end sort of thing, this is it, we've missed our chance, things are getting beyond saving, this is going to be a bad situation and talking about the end of society. I don't know if I believe in that, that's too much speculation for me. But they said, their conclusion was, maybe when everything breaks down on itself, maybe we'll step back and realize that it wasn't a good idea to build a society off of competition and greed. I think that capitalism has its place because it's worked for a long time. That doesn't mean that it's the best system in the world and I would never argue that it is, but I also am not very quick to start breaking it down and calling out its faults because I don't have an alternative to it. But I think that there is a lot of truth to the fact that we have built our society on people taking resources from other people and recognizing that it creates a cycle, a circle that works pretty well. But there are some people who are always better at taking money from other people, taking resources from other people, and the more resources you have the more able you are to take more money from other people. I think that it is creating a loop that is empowering others over the overall progress of the society itself and so it's in people's best interest to stop progress and keep using technology that we've been using for 110 years when the technology for wind production or solar production does exist. And exist in a way that could actually be cheaper for power production than coal. The Judith gap project which is producing electricity at less than 7 cents a kilowatt. Don't trust me on that figure but let's say that I heard 2 weeks ago that it's cheaper than coal in Montana. That's what I heard. I think that that's a serious win and that means that we just pulled electricity out of our environment in a way that is fairly noninvasive in terms of its ways of moving earth, moving habitat, and increasing the levels of CO2, heavy metals, toxins, in to the environment. All of these things that we've not done because we've built a wind turbine. And granted wind turbines take resources to build but moving coal is much worse and natural gas is just, Cornell just released their report that said natural gas is just as polluting as coal in terms of its CO2 emissions, if not more if you look at the whole life cycle. We just found out today in the Missoulian, they just reported some of the biomass plan, that it's going to release, is it extra nitrogen oxide? Um, which is too bad, but the CO2 is lower because at least we're not burning sunlight from billions of years ago, we're burning sun light from 10 years ago or 30 years ago. So it's a balance, it's not going to be easy. But I think that not only do you need to regulate carbon but you need to reexamine the system that got us here and I don't think that's easy and I don't think that's actually going to happen, to be honest with you. But I think that we have to try. So a lot of what we do in our club is we try to run our organization that doesn't thrive off of competition within itself. We

think that, we always assume that competition is efficient and the most efficient because the person that is the most efficient wins and they succeed and they continue to produce, you know, until somebody else comes up and challenges them. So the most efficient person is always on top, and that's for every company and they always have the cheapest prices because that's what we value, the cheapest prices. I think that we never ask the question, you know I think that's a really bold assumption first of all, that competition always produces the most efficient outcome. I think that we need to ask that same question of, is it possible that collaboration could produce an even better outcome, an even more efficient outcome. The work that I've done in teams makes me think that, you know, a good team is an organization greater than the sum of its parts. And I think that if we can find a society that can work together, rather than compete with itself internally then there might be a chance that we can be even more efficient than we are today.

I: That's very interesting, yeah, I like that. How would you, if you had to sort of divide things up between government, business, and individuals, who do you think should be taking action. Who do you think will actually take action if you had to divide the world up in to those three.

P: All of the above. I mean, business has to, business is in some ways. Individuals have to, they are to. Some governments are getting a lot done, some are not. I think the government has the potential to push things a little harder than all those groups can because they write the laws and they enforce the laws. Business I think has the potential to have the most impact though because ultimately I think anything government does is really sustained in business. And individuals too, but businesses are really the people we're concerned with right now. But if you get businesses to take that initiative on their own for whatever rationale or reason they want to, then that's beneficial as well. And then individuals will always be the drivers of getting things done in each of those organizations and in each of those groups. But all of the above, it has to come from everybody, and it has to come at 120% from everybody if we're really going to solve it.

I: That's good. That's a good point. Would you say, do you think your political views influence your thoughts about climate change at all?

P: No, I don't think so. I think maybe the one area where it's hard to separate politics is where you get involved in looking at equality and the need for reexamining overall structures of societies. I'm not very philosophical and don't know much about philosophy but I know I'm sounding a little more philosophical now than I'd like to usually. But I think that it's really easy for me to justify work on climate change from any political perspective but where it starts to break down is when we start talking about the need to balance out the economic inequalities and when we need to reexamine the way that we treat minorities or whether its race or sex or sexual orientation or whatever. I think that if we're not treating people equally than we're going to get back in the same situation. Van Jones is somebody that I think is really, kind of says it well, and he has this green for all, all for green statement he always says that these are positions that called green for all or it's called all for green, I can't remember. He always says "don't put a solar panel on this society cause that's not going to fix our problem." You know, we'll be in the same situation; we'll still have all these other problems. We might not have high carbon emissions but we'll still have toxins all over the place, you know that kind of stuff. I think he's right, he's got a good point. I think that we gotta find a way to make things run appropriately and, I don't know, that's where it gets hardest. To separate that political side that there are a lot of party issues that revolve around treating people differently. Whether its women, which I think are really, you know, I think it's a very conservative value to think that we cannot regulate business and just let women work with in the workplace and expect to be

treated equally. Not because that shouldn't be the case, but because it isn't the case. I think it's especially true when talking about gays and the LGBT community and probably even, and not to mention the fact of just having basic choice over yourself and I don't know if LGBT are paid less overall, I just wouldn't know. I think the woman issue is probably more imbalanced. I think that all comes back to kind of how we treat each other and how we treat the environment. Ultimately. It's a value statement. Do you value the people around you that, the environment around you, the land itself. Yes. Some people do for spiritual or emotional reasons, but I don't. I think you can do that without being tied to the land emotionally. But I think that that still plays out when you are talking about the way you treat one another because it's easy to say that we can take advantage of the land as long as it's not in my backyard but it's always going to be in somebody's back yard. Probably somebody who is poorer than you are. So it all balances. That's where it gets political I think. Climate change itself is so straightforward. I think that's why it's my number one frustration when people just don't understand the science itself. You know. You would think that my number one frustration would be actually the inequality, and the acceptance of inequality. But I get the inequality and the acceptance of it because I know that it's political and I know that it's justified in a manner that seems okay. Freedom, you know. The ability to do what they want to do or what I want to do. But I think that ignoring straight, clear science is really hard to do and unfortunately the evidence is stacking up so strongly that it's kind of hard to ignore.

I: Yeah, sure. How would you describe your political views.

P: I don't know. It's kind of hard to relate these days. I would say extremely liberal because I feel that way around other people. But I'm not very vocal about my political views. And if this was not private then I probably wouldn't have said anything about them. But I think that I'm very liberal but at the same time I could care less about party politics and I'm also very fiscally conservative and I'm not too, and fiscally, I mean that I don't like to spend more money than we have. I think you've got to spend your money in the most efficient way possible. And you've got to make sure that you are investing in your future. You know. I think, so, I'm not; I think everybody's that way. I think that it's totally political when you say "the democrats are fiscally, you know, irresponsible." I don't think they think they are, you know. They probably think they are investing in education for tomorrow, you know, that kind of stuff. I also don't think the democrats get it either. They're pretty, do I identify with one part more than the other, it's probably the democrats. It kind of goes back to the social issues. The democrats are the one party that have pretended to stand up for minorities and the inequalities that are faced by women and people of color. Where there hasn't even been an attempt to focus on that from the republican party.

I: That's a very good answer. Would you say that you think about climate change at all when you make decisions about transportation or energy use? Does it come in to your…

P: Oh, sure. I think I don't reflect on climate change every time I hop on my bike, but it was the reason I made the decision to bike in the first place.

I: That's interesting. So, tell me a little bit about that.

P: Well, I brought a bike out but I think I would have been much more likely to drive a car had I not been involved in the environmental movement. You know. I don't think it was an aha moment but I said why I picked up a bike, but what I meant was the reason I started riding my bike in the first place was because of climate change. Why I started riding actively. But I would say once you get in the habit it's just easy to keep on going.

I: Yeah, that's a very good point, the habit. I'm wondering if you think at all about energy security or energy independence, sort of freedom from foreign oil or however the different ways it's played and kind of how that issue sits for you.

P: Yeah, definitely. More of an argument against people who don't believe in environmental issues. I think it's really easy to make the argument that we need to be energy independent for a lot of reasons. The most probably important to me is that if you are transporting oil from across the world then you are using a lot of oil to get oil, you know, like gasoline or diesel I think is what those engines are, what those ships run off.

I: yeah, probably.

P: So that's one thing to keep in mind. But unfortunately it's easy to drop into a mindset that you can use things like nuclear or coal in the United States or natural gas and that's where I think it's important to make the decision that not only do we want to give money to our neighbors, financially you know, although we do need to find a way to take care of one another as a world. This isn't just a country issue of course. This is a worldwide issue, not limited to boundaries. It's a really good way to stop the oil debate and say we need energy for ourselves. We need to take care of ourselves and they need to take care of themselves. Then everyone has the potential to generate the electricity they need, we've just got to find the technology that's able to do it. We've got to put the upfront costs there. I think that when we realize that we want to generate our own electricity and we want to do it right at home, then we've got to start asking questions of "How do we do it?" without messing up our home. And, so, I don't know. I think when I really think about energy security I think more about, less about terrorism or wars and more about the argument structure itself and just talking to somebody and be like well, why would you use oil. It's a bad idea. And I wouldn't, you'd be hard pressed to find anybody who probably say "no, we need to buy oil from overseas." The environmentalist in me says that I don't want to transport it across the world. The republican in somebody else might say energy security, they might say, you know, security of the dollar, you know, not energy security but foreign, like security from terrorists attacks. Like where is the money going is a big question for a lot of people. I'm less concerned by those things. I think they're valid but I think that they might be a little bit one sided to see the world that way. To see it from an us vs. them perspective.

I: That's great.

P: That's not really where I come from. A more holistic view is my approach.

I: That's very interesting. I'm wondering if there are other things that you've done in response to climate change that we haven't talked about, just to give you kind of a more open ended. I don't know if I've asked the right questions.

P: Climate action now is huge. We've done a lot of work and we have our sustainability fee on campus which generated $160,000 for sustainability projects and I worked on that as a freshman to get established with [names friend] who was the founder. That's now called the [name of person] revolving energy loan fund that matches all that funding. He had passed away a year and a half ago. We have lots of recycling issues on campus, there's a recycling fee up for vote next Wednesday you should vote for. Transportation initiatives. I work as the board chair for ASUM transportation. We run buses, about a million dollar organization that works on bus transportation for the park and ride and is pushing very close, I think we're

going to miss it just barely, to 400,000 rides per year on campus. That's about 3,000 students a day riding the bus. So we've got those. We have bike programs, and you know I've worked pretty hard on all of those issues. Through [campus organization] I've done a lot of work on trying to support clean energy on campus, the biomass plant was a great project. I think that's it one that I'm extremely skeptical of, really don't know what I think about it because the people working on it haven't been very open to student involvement and that's too bad. I think that there are a lot of demands that we had that have just kind of been left off. But I also think that's a very complex project and we haven't had the resources to really attack it properly. But we've done our best to really throw down limitations. I was part of the team that established the 20/20 carbon neutrality day last year, last January a year and a half ago, year and three months ago. We pushed really hard to get that aggressive climate action date set.

I: Is that for the University?

P: For the University, yeah. The University has a climate action plan that sets the carbon neutrality target date at 20/20 (which is like 9 years away). We're not going to make it at this rate so now we are doing everything we can to increase our rate of reducing our carbon footprint. But with the biomass plan we are taking a huge step in that direction for the carbon footprint. Air qualities a whole other issue and just as important.

I: Yeah, that's a good point.

P: You can't, you've got to take care of the whole system. And then, working really closely with collaborative groups, collaborating with groups from different organizations on campus. We have, all of my friends are involved in environmental organizations it feels like, and they are all on different ones. We have Students for Ecological Restoration, we have Students for the UM Wilderness Assoc., we've got Students for Real Food or their name, their trying to change their name to Just Food. I'm close with their presidents and their members. One Thousand New Gardens, UM Flat-which is a form for living with appropriate technology. The Environmental Law Group. There's all these different groups on campus that tie together and I'm doing the best that I can to try to bring us together. I think that we have individuals who create kind of a network of the different organizations for a lot of different reasons. But one reason is because we all recognize that each of our issues is equally important to actually solving the climate change environmental catastrophe that's we're all facing. And focusing on climate change along won't solve the problem. You have to focus on the food, you have to focus on the environmental justice, you've gotta focus on the carbon emissions, you've got to focus on the wilderness areas because they're the carbon sinks that protect your wildlife and biodiversity. You've got to work on every single area, and only when we've tackled each of those areas will we really have solved the problem.

I: That's great. That's really good. It's exciting.

P: Yeah, it is. It's a lot of work.

I: Yeah.

P: It's tiring.

I: Yeah, I bet. I see why you just said you didn't have much free time (shared laughter). I have just a few more questions. You are probably very well aware of this, but there's been a fair

amount of studies of what will happen here in the Missoula area due to climate change. You know Steve Running at the lab and all that stuff.

P: It's a big deal, yeah.

I: And so the things that they predict will happen are that we'll have more, the world and Missoula, will be more like the summer of 2007. I don't know if you remember this-the last big fire season that we had.

P: I wasn't here.

I: You probably know all of these things that are going to happen—many more fires, more smoky, more smoke in the valley, stream closures cause of low water flow, so impacts on fishing and other water related sports.

P: Skiing.

I: Certainly it impacts on the winter. I'm just wondering, do you feel like those things would impact your quality of life and how you might, what would be your response do you think.

P: I'd probably move. If I live, you know at some point you're living in an environment that is just as beautiful and rewarding , you know, for, in terms of what's around you as living in a big city, you might as well just move to a big city where you can do more anyway it seems like in terms of being effective. I think that Montana's beautiful and I want it to be like this forever, but, or least like it was because I think that maybe before knapweed was everywhere and all that. I think that it would definitely impact my way of living, especially because of how much time I spend outside.

N6.12 Joel

I: So, actually, I have some questions about climate change. What are your general thoughts about climate change? I assume you think it is happening.

J: It doesn't exist [joking]. Well, now that Bush said it exists, or he did a long time ago…

I: We can agree.

J: I can agree on that. Honestly, I don't know a whole lot about it which is kind of unfortunate. But, then again, we all know at this point it is happening. The earth, with my understanding, I read this in IPCC report that we have gone up 1˚C on average. But, basically, we don't know what is going to happen. It is like I went to a lecture on Geo- Engineering our climate and it was like two years ago and the ethics of it Should we really be investing in this or no. And she was saying it is kind of like flipping a spinner, you know. There is a chance that climate change really couldn't be that bad. Or there is the chance that all life on this earth is pretty much gone. And like it collapses. And maybe we really have no idea. We can predict and make theories and people are getting paid money to do that. I think the bottom line for me is, you know, climate change is kind of a symptom of what is going on. I personally view it as the overriding influence of humanity on all life is unacceptable. I think other beings need to be free from constraint of people. They need to have the option to fulfill their evolutionary potential and we can still kind of fulfill ours whatever that means. I guess climate change is important to me, but it is kind of only important to me because it affects other things. It is not like…I am one of those crusaders like [names a person at the university] "oh, climate change is *my* issue. I love climate change. I research it all the time." To me, it is more like sort of a burden. I had better know something about climate change because that is what is going on. Everyone talks about it but no one really knows about it honestly. Even people take like 101 Climate Change class, I know the general theory why the earth has warmed

up. The blanket is getting thicker. But, it is interesting that people are so uninformed on a complex issue like climate change. It is hard, as not being experts, and the nature of the issue is really interesting because you have, I don't know, hundreds of thousands of articles that all piece together what is going on that are all done by experts and really we can't decipher it. So if you don't have that baseline trust in science, you are not necessarily going to believe the IPCC's report.

I: That is a good point.

J: We no longer have the, our world, you know, is so diverse and complex and I think that science literacy like understanding science is kind of, I don't know, it is hard to define. But, even undergrads, we don't really know science that well. Hopefully, grad students understand the process a little better than me, but I guess that is pretty fundamental to understanding climate change. I am rambling.

I: No, it's all good. People who talk a lot are like the best.

J: Okay.

I: Yeah, that is really good.

J: Well, you can cut me off.

I: I am interested in kind of what do you think is going to happen, what worries you about climate change?

J: Let's see. No glaciers in Glacier National Park. I worked as a backcountry ranger in North Cascades National Park and there are over 300 glaciers in the Park there and much of them are going to be gone. Well, actually, I mean there are some areas I guess in the Sierras that there is a chance that the snowpack would increase and I guess that could accumulate to increasing glacier size. What I am mostly worried about is the decline in biodiversity in general and its effects on people. I don't know. I am kind of embittered towards the human race because it is kind of like we are finally getting some of our own poison. Yeah, of course, I am worried about cities flooding. And, of course, on a person-to-person basis, I have gotten over being cold towards people or using that as a justification like, "ah, man, you shouldn't exist. You just ruined the world and you don't care." So, I have gotten over that but my biggest concern is the loss of biodiversity which is, you know, diversity is amazing, the amazing parts of the world we live in. It is pretty important to realize that we are not the only ones here. So, that is a big thing. I guess there is a lecture, what is her name, I want to say she is from UC santa cruz, she talked about climate change and like nature and she was saying, "of course, nature will survive climate change but that's not the question, the question is: is the type of nature we want going to survive climate change. It was really interesting because biodiversity in and of itself is not necessarily… you have to like the idea of diversity of life to subscribe to that reasoning. But, she was like it is all what we want and do we want there to be like, you know… The coral reefs, for example, I mean more life lives under the ocean than above so if you think about the coral reefs, boom, they are gone. That is the backbone for diversity of our oceans. That is a huge thing. And if that is caused by the acidification because of increased CO^2 levels of our atmosphere, that just seems like that is a huge thing. The bottom line is if that is the only thing that climate change did, I would be against climate change at least, anthropogenically-caused climate change and that is what I believe the primary source is which ties back obviously to our energy consumption and our lifestyle choices and where we are at in society right now.

I: What do you think we should be doing about climate change?

J: I feel like after this interview, you're going to think I am going crazy.

I: No, not at all. You have very good thoughts and people who have a lot of thoughts are really some of the best interviewees. Then I have more stuff to analyze

J: Yeah, right. You can spend your time coding. Could you repeat the question?

I: What do you think we should be doing about climate change? For example, if you kind of divide the world up into government and policy like you mentioned, individual choices, and say

businesses and corporations and what they do, who do you think should be taking the lead on this?

J: Well, I think as I kind of said before, there are both personal choices and policy changes and I look at policy changes as we basically need a revolution. No, ha. I've given up, I'm…I am more excited about the possibility of reinventing a different wheel per se, so I am more into the revolution idea than the reform idea, as in revolution is a new society, reform is changes within society. I think that climate change is a symptom and something else is going to pop up once we fix climate change, if we ever do fix climate change. I have no idea what that will be but I think that, as far as practically speaking today, what can we each do today? We can ride our bikes. We can eat local food, sow a garden. [says all this like it is kind of dumb] I think policy is very important and it is an interesting thing because climate change is such a large issue that to effectively work on it, it is a collective problem but it needs to be solved collectively. It is like the ultimate tragedy of the commons. In order to fix the problem, obviously, we need to have serious international negotiations with targets for CO^2 emissions that are actually going to do something which is why it is so frustrating like when Copenhagen falls through and Cancun falls through or whatever. It is like there were so many people on the streets in Copenhagen, I don't remember the numbers, but there are tens of thousands if not hundreds of thousands of people in Europe saying now is the time, please make the decision. And the problem is it is too much of a... it is too well-ingrained, you know. It is like when are the leaders really going to make a difference and realize that this is a big issue that needs real consideration? So my point there is policy is important but it has to be aggressive and it has to do enough that it will really change things. So with regard to climate change, we need 350, of course. I personally believe that the more that you invest in an issue like getting 1,000 people arrested at the White House was ideal. It was exactly what needed to happen because, if you think about it, any social movement you have to have all different tactics going on. So I view this as a social movement. It is people that are ultimately going to be affected and it is not the people in power that are ultimately going to be affected. Just like most of the time it is the case. But, until it is like civil rights style where people are really out on the streets making this a big deal and, of course, that's not just… You know what is interesting, sometimes I get caught up in the fact that so many people are apathetic towards issues, but it is interesting to think that you don't even need a majority…Hey, Ellie, hi.

E: Hi. How are you?

J: Good. I'll let you go. I just saw you walking by.

E: Hi.

I: Joel has been nice enough to let me interview him for my dissertation.

E: Oh. How is it going?

J: It is going well.

I: He is a great subject because he talks and has a lot to say which is exactly ideal.

J: I am on a rant as far as…

E: And what is your project?

I: Basically what motivates peoples' energy and transportation choices and kind of how people feel about climate change?

E: Yeah, that is a good one. (Inaudible). I should probably go home. I don't feel very good.

I: You need some sleep.

J: Sorry.

I: No problem.

J: Where was I at? Oh, we need… What was the question?

I: You were talking about how if a thousand people were being arrested was a really important element of a social movement and kind of where you think a social movement needs to go maybe?

J: Yeah. I guess it is interesting how you know you can have really effective, civil disobedience, and you can have ineffective civil disobedience. Or I think that, oh, I know what I was saying. Civil rights was a good example or like Gandhi and India's independence. I am familiar with that because I have done a little bit of research and I lived there a little bit. I was born in India. My parents were working there in an international school. But those types of things are super important because they kind of show the gravity of the situation. They show that it really does hold a lot of weight and so I guess that is the type of thing that needs to start happening as part of a larger movement which is happening. I keep getting these annoying e-mails about Keystone XL and Bill McKibbin keeps e-mailing everyone and Wit Jones from Energy Action Coalition or something. And it is like "oh, yeah, people power versus the corporations and stuff" but it is good to gets those but it is kind of annoying to get those because, okay, I am supposed to do a paper. But I would like to see people first and foremost get educated, you know, obviously, the science is out there. It is about effectively communicating what we know and that is why climate change studies and that sort of education and education early on… It is basically coercion in a weird way but it is the right type of coercion. Just like recycling has run its course. We need to show those connections that go to climate change. You need that step-by-step process. What would happen if everyone in this class today drove in a car? How much CO^2? What if we all flew here from New York? How much CO^2? You need that type of connection early on so that it gets ingrained in people to see that. So you need education and, obviously, it always comes back to education. We need really effective campaigns led by people who know what is going on and how to run campaigns and are passionate and whatever. Part of that includes civil disobedience because I think that can be a very effective strategy in part of the whole and personal decisions. So I'd say education. I guess, that's what my three were, education and political advocacy and personal decisions are all super important.

I: Do you think climate change is going to impact you personally?

J: Yeah, probably. I mean if I ever wanted to go to a coral reef that is going to be pretty personal. A lot of the decisions like "I like snow" it's kind of like whatever, we will probably still have snow but, I don't want to make too grand of claims but I do remember my hydrology professor saying something about either Missoula won't have any snow by 2050 or if the projections are correct or we won't have very much. And that is less important to me, I guess. So I guess the way that climate change will personally affect people is going to be different. Obviously, the islands are like 3' off the ocean floor are going to be very affected or are already being affected. Of course, those types of people are going to be very affected by climate change. I personally am pretty insulated; the middle class person is probably going to have no money, food and shelter. I don't foresee a full-on collapse in the next (this is 2011) 49 years to 2050. But, I guess it is possible. But, yeah, I will see the impacts of climate change here. I don't want to overplay the whole "I like snow" thing and glaciers because it is true that, according to most research being done, the climate has and does continue to change over time. You know, the ice age did happen, etc. But, it is important from my understanding, some people down play our current situation and some people kind of escalate our current situation; but, the fact is that the rate at which the change is happening, it is much faster than ever before, at least in recent times. So, I guess when I say these things about changes that I can see, it is really hard to say that "oh, that is why I am fighting for climate change" because it is like well, is it really going to personally impact me? But, the fact that glaciers are receding, that is something that I can *see* and it does affect me even though it is not like "oh, I can't eat today because the glaciers are smaller." It is something that is there. I mean Glacier National Park not having glaciers, it is a big deal. It is a big deal because it does show that changes are happening and it is kind of like an indicator, I feel like. I went on a mountaineering trip in Canada in the Purcell range and got to the base of what on the map showed to be a glacier and it was essentially bare rock for about half a mile and the glacier had receded about half a mile up and left a granite slab basically. I did not realize that until we got out the map

and like here's our camp in 1977, the glacier was right here when it was surveyed and now the glacier we can barely see. It is up there. That is a pretty clear sign that something is happening. More studies show, at least in the north Cascades they speak to that, and on average the size of glaciers are on the decline. The overall mass is declining. I am not sure if they are all receding or what. So, those kinds of changes. Personally I would guess that things will get more expensive depending on how severe it is. I think that a big thing actually is, I didn't necessarily jump on, but a big thing is basically climate wars which we will probably be involved in. You know, when people don't have enough food, and people don't have the basic resources, especially when they had them prior, and increased drought and all these problems are symptoms of climate change in Africa or wherever, these things are going to materialize and put stress upon populations which then, you know, people have already kind of said that about certain conflicts as one of the first climate wars. The Department of Defense gave a lecture here, it was kind of a weird lecture, but two years ago it was all about why they care about climate change. It was really interesting. Obviously, it is happening if the Department of Defense, the number one or probably one of the most, contributes a lot to climate change in how much energy they use to fly jets and etc. If they are worried about it, that means that it is probably happening and we should be worried about it. So, in that sense, yes, I don't know. I can't predict that there is going to be a WWIII or whether or not those types of wars will affect us, but I could definitely see increased drought and resultant famine, the world excess grain supply dropping, or whatever. People in third world countries regardless, and most interpretations, the poorest people are going to be to the ones that suffer. And depending on your location, if you live on an island that is going to get flooded or low-lying cities next to the ocean, or a city that is dependent on ski resorts for tourism, all those places are going to be hotspots for impact. I don't personally see it currently as I am going to lose my life or my livelihood because of climate change but I do see it as other people will. Just like Vietnam, we did a studied abroad [names professor] and another professor at the College of Forestry I don't remember his name… she was saying how sea levels are rising, salt water is getting into estuaries or into rice paddies and they can't grow rice because of the salt water. It is like whoever really thought about that. Of course, it has happened before probably but that kind of chronic widespread impacts are going to be significant. And, yes, there will be repercussions. I think we are just insulated because we live in one of the wealthiest and definitely one of the most "consumeristic" countries that there is.

I: You mentioned a couple of times places that are important to you and wilderness protection and that kind of thing. How does that tie into your thoughts about climate change or why climate change is important to you, or does it?

J: Well, there are a lot of interesting things about climate change and wilderness. One thing is more like academic but it is the idea that wilderness is this stable state, it does not change. Therefore, climate change kind of brings into question a lot of that. So essentially you might have to essentially take a new approach to defining what wilderness is. It is not so much just this place that we leave totally unaltered and is totally unaffected, like free from… I guess I think about [names person]'s book with [names person] about naturalness. I hope it get this right: free from human results, human impact unintentional or intentional. Or basically unintentional – just the human effect on the land. One is kind of "What is Nature?" It's pretty important because a lot of people talk about "aw, I care about nature" and the natural world. But, what exactly is that natural world and why do you care about it? So, free from human impact, climate change totally calls that into question so there is no place on the face of the planet that is not affected by humans if you look at it in that view. And you can also look at air pollution or whatever as other things as examples of that. Definitely that type of thing and understanding that climate change directly impacts wilderness areas. Of course, it definitely impacts wilderness areas and have the whole idea should we assist the migration species is a big deal. Should we move species A to this location because we think the climate is going to move it there or it would move there if it could but can't because of a mountain range. That is a big deal and I honestly think no, we should not.

We should let things die out. I do like the idea of biodiversity but I don't think we can really save biodiversity. It is like a Band-Aid. Someone is suffering from multisystem trauma injury like their leg is broken, their hand is broken or whatever, you are not going to just slap a Band-Aid on it. "You're good, dude. Walk home." You know, you have to call 911. You have to get the whole deal going and I think that trying to solve things like biodiversity or species extinction, at least in the local area, trying to solve that through assisted migration is not acceptable. I think basically there are a lot of things that play into how we look at wilderness and how we might deal with climate change in wilderness areas that kind of puts a lot of stress on wilderness and like whitebark pone mountain pine beetle it is going to go up in elevation when climate change increases our temperature because it can't kill the beetles in the winter and we don't get those hard freezes. Yeah, that is going to have some influence on wilderness areas and we'll see more red trees. I don't really care about that but, like our pine being completely gone. It is related but it is not really because the biggest thing is the blister rust coming in but climate change might have… You know, the blister rust comes in and weakens the trees and they are more susceptible to beetles which are connected to climate change because now they can exist at those high elevations. So there are all these links and they are kind of hard to decipher. I think the biggest thing about climate change is, I mean, actually, sometimes they are hard to decipher; other times, not so much. I mean, think about the pica. There is the possibility that the pica is going to be gone. That is a big deal. That is a wilderness species. I mean it is typically in those high elevations talus slopes or whatever. The pica is gone. The wolverine. You know, there are connections there that will definitely be a factor. It is hard because with climate change, how do you connect those pieces of the puzzle? There are so many other factors. Say it warms; say it cools. That brings in a different species and maybe facilitates non-native invasives, disease spread which then has some impact here, I don't know… Yeah, it definitely is a factor. It really is something that contributes. As I said, my impetus and a lot of my motivation comes from the idea of protecting wild places and if I see a threat to wilderness as the overriding influence of people and climate change is one of those influences, I think it is definitely connected.

I: Would you say that you think about climate change when you make decisions about transportation or energy? Does it play a role in how you decide what to do?

J: Yeah. I definitely think about it but, at the same time, part of the reason I bike is, I will be honest, I'd like to say "oh, I always think about climate change first and foremost." But, it is hard to see tangible… It is not like I ride my bike today and I get a little green sticker that says "you saved x amount of CO^2 units." We don't get those rewards and I don't mean that we should be getting stickers. It is just hard to see how our decisions impact the greater world when it is such a big commons so I don't necessarily make decisions that are not solely based on climate change I don't think, but it is definitely a factor.

I: Do you find the issue of energy security or energy dependence important or motivational?

J: Yeah, it is definitely related for sure.

I: Like dependence on foreign oil.

J: Yeah. I don't like the idea that we have to be in Iraq for oil but that is a different topic. So, yes, I think it is important that we do have our own energy; but, that is no excuse to drill ANWAR, that is no excuse to go into the tar sands. We are going to run out of oil. We are going to have to figure out something with oil. Maybe we could go longer with coal. But, if we do that, it will mean the world is going to like cook from what I have heard. It is important and I would like to see it go in the direction of localized energy utilizing the resources in your area. I think there is a place for, you know, we already have a really effective system to transfer energy over a long way – power lines that we move energy from a dam way across the country. I think we can utilize that stuff and it doesn't all need to be in my backyard, but more localized the better. We should be investing in renewable energy sources – geothermal – not necessarily biofuel and that kind of stuff, but geothermal, solar, wind. Wind now makes up more than 1% of our energy

consumption. That is great but that is not enough. OSU is looking into … I bet a bunch of places are… I remember four years ago writing a paper on renewable energy in Oregon and OSU is looking into tidal buoys that go up and down. Yeah, we need to look into that. Here is something to think about: why are we trying to move towards renewable energy? Is it because we are going to run out? Is it because we want to make sure we have enough energy that we don't have to rely on Canada in case they freak out or in case we don't want to be in the Middle East, etc.? That is not so much a motivating force as let's get off this so we can have a better place to live. To me that is more important. I guess they are inter related, but what I am saying is that I don't want renewable energy to be… A friend once told me that finding the perfect renewable energy source that is 100% clean (I don't think it can ever be 100% clean), super cheap, free, say easily harvest the energy from the sun in a super-efficient manner like this much to supply a city. The analogy is giving a chainsaw to a toddler because now you have given so much power to basically build more, move more, you only want more of all the problems that we have now, is the way I see it. I don't want that. Yes, we should move towards renewables and that is great, but ultimately, energy independence is important but I wouldn't say it is necessarily…it depends on how you go about it. To me a lot of problems don't have technological solutions and I believe this one, energy, where it comes from, etc., does not have one. To me that needs to be reformed at least within society. It just can't be, oh, we are going to find some sort of plankton that helps us out because there is going to be something else. Say everything was super cheap, energy was super cheap, then what is going to happen is that everyone would drive everywhere and all of a sudden you could heat your home super easy, then everyone would get bigger houses because it would be that much cheaper. These restraints that are placed on it, I mean it is good that fossil fuel goes up to $5 a gallon. I would prefer that. I don't personally want that because that is a burden on me but, if it means we reduce our consumption, it is a good thing. So, the same thing is true with a lot of renewables. Nothing is truly renewable. It is taking up space or it is utilizing some energy that the earth is receiving and it can spur increased development which I don't think is good.

I: That is very interesting. This is my last question and I think it is related to what you are talking about right now and, if it is not, you can say I'm misunderstanding. But you had mentioned a few times that climate change is just a symptom. Whats the bigger illness or how would you describe that? I know you have already spent a lot of time with me so you can give me your 5-second version.

J: It is good that you are thinking about that.

I: It seems like it is kind of related.

J: Yeah, climate change is a symptom as in… You know, some people would identify climate change as the problem. Some people would stop there. Well, what really is the problem? The problem is whatever hurts or hinders us. So the problem is coral reefs going down, no tourism in Jamaica, that is the problem. Another problem is I can't grow rice because sea water is coming in. Another problem is weird weather, you know, tornadoes, hurricanes, whatever. Boom. These are the problems; but, then if you take it back and connect those to climate change then you kind of see climate change as the overriding problem. Then if you think about what is the cause of climate change? Well, the cause of climate change is the fact that we use too much energy and we emit too much CO^2 and other greenhouse gases. So, that is a problem. But, then if you look at, I personally think if you look at that and then look at the cause of why are we emitting these greenhouse gases, then you see that the problem is the way society is formed, the way that, obviously, we have to drive so much, we tend to fly a lot, all of these things, that we just moved in that direction for whatever reason. I have a laptop; it requires energy, I use the laptop. We use computers more than we did 15 years ago. That is just the way we are headed and I think that in and of itself is the root. Obviously, if you trace it back, it is the root. No one can say if you believe there is a connection between people, i.e. CO^2, greenhouse gas emitted whatever, methane, etc. and climate change, then, if you believe there is a connection there, you have to

take it one more step and say this is the problem. So, if you look at that and you look at society and you do see that that problem, you know, it doesn't stop climate change, it is within society and therefore, if we want to fix climate change, you shouldn't just attack climate change. We should attack from where climate change is coming from. But, more so than that, looking beyond the cars and the renewable energy, we should actually look at society and say what is wrong with this model? After, climate change, I mean climate change seems huge right now. It seems like the biggest issue as far as like scale-wise goes and mass effect goes. It is one of the biggest ones. But, I guarantee you there are going to be other things, like climate change once we get rid of climate change, I personally think if we were… A good example would be like if we did change, geo-engineer our climate and say we could do it really effectively and really safely, the climate wouldn't be changed but then we would realize, okay, so that we could control the temperature and fluctuations in the weather over a long period of time or the climate somewhat, but say the gasses were still there, so we would still have the coral reef problem. And we would still have whatever the other problems may be. Just like ozone pops up and acid rain and all of things. I guess I am just kind of pumping them altogether. So for me, it is more interesting to think about it that way and it seems more effective to think about it that way.

I: That is very interesting.

J: It is not necessarily easier. Most people, quite frankly, probably don't care about radical reform of society. Most people are pretty content. That's fine but it is a little deeper.

N6.13 Rich

I: So one issue that comes up a lot when we're talking about energy is climate change, so I'm wondering what are your thoughts on that issue.

R: I think the climate is changing. I think – there's no question it's getting warmer. I'm not convinced that it's all us. I am convinced that we are the minimum part of the problem. I like the conversation, and I know it's not justification for a lot of folks, but I think the conversation actually helps us treat the earth better. Hopefully, ultimately, we can. We are having an impact, you know, 50 years from now we might look back and think, oh man, we were so wrong, it's more of a natural thing. We could be under 16 feet of ice here. That remains to be seen. The conversation is not a bad conversation, though. I would support carbon credits and ways to try to manage carbon we are putting into the air.

I: That's a very good point. And would you say you're concerned about climate change?

R: Absolutely.

I: And what kind of are the concerns that come to mind?

R: They mostly have to do with the earth, I think. If you're losing the impact on ice caps, the (inaudible) earth when the permafrost heats up, the rise in water levels, an awful lot of the money that humans have spent on infrastructure, buildings and such, are right on at sea level; Seattle, Tampa, Miami, New York City, Boston, just for a few. So just a few feet of change in water level, oceanic level would be huge. Yeah. To some extent animal extinction would do it. Yeah.

I: Good points. What impacts do you think climate change will have, and what's your thought on time frame, like do you think it's happening now or it's kind of out in the future, or how do you --

R: Yep, absolutely. I watch an awful lot of news and listen to news and I don't have any doubt in my mind that it's happening now and it's having in a huge impact already. I am convinced that it's not too late for humans to change what they're doing, but again I'm not – I think it is difficult to measure whether it's our activity that's having the biggest impact or it's the natural cycle.

I: Yeah, sure. And where would you say you get most of your information about climate change?

R: News. I watch – I listen to public radio a lot. I watch – I don't watch the talking heads on TV, or I don't listen to them on radio either, either side, but I watch documentary-type programming on TV that I feel like I can trust and get some sense of – I'm not a right wing or a left wing person – I'm just talking about what I know, this is what I know kind of stuff.

I: Terrific. I'm wondering what you think we should be doing about climate change, if anything?

R: I think that – well, I'll go back and say that gasoline should be taxed a lot more than it already is. That's actually one of the impacts that we don't measure and – we think it's bad around here, go sit in traffic in Seattle or L.A. – we need to raise the cost of gasoline through taxes, channel that into more rail, light rail, even – one of the things we talked about going downtown, put a street car back that goes from north and west to St. Pats' where the tracks are, eventually the University, and then a light rail that runs all the way down the Bitterroot and out to the airport that hooks up with an Amtrak station that's north of town. Don't even have to use a car. I think that's the kind of stuff – I think infill, you're driving less.

I: In-fill development?

R: Yep. We need to create the environment. I'll give you an example. The City of Missoula in the last few years put into place impact fees, transportation impact fees so that when you have a new development, up front you're going to be paying, quote, unquote, the impact it's going to have, sewers, whatever, curbs, sidewalks. We went to the City and said, downtown should have a break on that because our infrastructure is already in place, so if I've got a guy that wants to build a new bank, he's not having to build a road to his bank, he's not having to build – sewer in and all that stuff. And they said, no, no, no. Well, we went through a master plan process that was pretty substantial and so they came back and we talked to them again and we actually got 33 % off of impact fees if you build in a master plan area. Well, we actually need to get more of that done.

I: That's a nice incentive.

R: It needs to be almost no impact fee to build in the downtown. We have to create incentive for developers to say, Hey, I can go buy a piece of ground and develop it and I don't have that extra cost.

I: Yeah, that's great. So if you were going to say kind of who should be taking primary responsibility for making changes on climate change, where would you kind of fall between government or individuals changing their behavior or businesses?

R: All of the above. I think politically you need incentives, like I was saying, impact fees, those kinds of things.

I: That's kind of a government job.

R: I'm not as opposed to government; this no new government, no new taxes idiocy. Every substantial economic period we've ever had in this country has been driven by government. People railing against how badly the stimulus plan is for us and we're in debt, well, I got news for you, we've been in debt before and what got us out of was the government taking a hand – humans are what they are. And most of us don't think past the day that I have to get through, the pay period I need – in fact, most of the population I think lives pay period to pay period, and they make decisions based on that fact. I was a banker for 27 years, trust me, people will borrow money that they can't afford, as long as they think they can make that payment. Not saving a dime, running the credit cards up, human nature is an ugly thing if let run rampant as a collective – you can't rely on humans – you cannot rely on our capitalist market to run it because they're naturally driven to the bottom line, what does our profits look? I'm going to hire and fire people based on that whether it's right or wrong. I'm not a communist but I don't think, especially bigger corporations should have as much power as they have. They're not making the right decisions. They have no incentive to make the right decisions.

I: Do you think your political views – you're right on track, you're anticipating the questions – do you think your political views influenced your thoughts on climate change?

R: Absolutely. If it wasn't for my wife, I'd probably have run for elective office somewhere. If you do, I'm divorcing you.

I: So tell me a little bit about that in terms of how you think politics and climate change interrelate for you?

R: You got to create the incentive to change the way people do the things they do. If you truly think they want infill downtown and we want to have fewer people driving cars to get around so we don't have to pave more roads, make them wider, you've got to do the things – instead of talk and talk, you've got to walk the walk. It's one thing to just sit here and talk about how wonderful it is to have this utopia but you've got to do the stuff that needs to get done to incent people, direct people – people's actions the way they live their lives.

I: How would you describe your political views?

R: What do you mean? Republican? Democrat?

I: It doesn't have to be a label, just however you think about it.

R: Politicians above the local level are idiots, both sides. I'm a moderate, I guess. I would call myself a business democrat. Without business, we're all screwed, You need a job, you need to pay taxes, all that stuff, but I don't believe in giving the farm away to corporations. I think we need to have as many small entrepreneurial businesses as possible. I think one of the biggest things we could do to incent that is to create a

national healthcare plan. As you go through your life, and you maybe even have that issue now being pregnant, I don't know where you get your healthcare –

I: Well, through school, but I'll graduate soon so it's very top of mind for me.

R: So what you and your husband do when you're getting out of school and you're losing the healthcare that you have is going to have a huge impact on the job that you take and where you will go to work. You will take a job and apply for jobs that you may – don't want to be there. I can tell you I worked for banks for 27 years. If I – I had four kids of my own, and one of the main reasons I stayed a banker was healthcare, one of "the" main reasons so I could provide healthcare to my kids. I hated banking. They're part of the problem in my mind. I don't think they get it, truly. They talk the talk about how they take care of customers but they don't, not really. They take care of the bank's bottom line. That's – at the end of the day, that's all it is. So healthcare would give you the freedom to either, you know, I want to own a woman's dress store, I want to be my own boss. I've got 2 little children and I've got to go to work where I can provide healthcare for my kids. That's the way it is. Absolutely. I think you'd have a lot more entrepreneurial people flourishing because of it. All it takes is one medical issue that's – not even catastrophic – just one medical issue and your whole world comes crashing down. I think everybody has – should have a right to moderate, at the least, healthcare.

I: That's a very good point and a good –

R: And I'm scared to death of having the government make medical decisions for me but not as scared as I am now having some insurance agent or insurance executive making my medical decision for me. At least, governmental wise, I can go to the ballot box and try to change that, but with insurance agent or executive, I have almost no control. I'm not even a blip on his screen.

I: Yeah, that's a good point. Would you say you think about climate change at all when you're making decisions about energy use or transportation? Does it kind of factor in –

R: Not directly. I'm pretty aware of it. But if I've got to go somewhere and do something, I'll jump in my pickup, start it up and go. I think that's a good indicator of government needs to do the things and, you know, say, well, you shouldn't rely on the society to be creative, none of us is able to go find a piece of ground and do self sufficiency farming in the world we've created as humans. Our government is the place you go for things like that, in my opinion. So if gasoline were where it needed to be, or even close to where it needed to be, I think it would have an affect on people's decisions. Right now, even three bucks or whatever it is, it's not high enough. I need that help too, and I actually think I'm – I'm a pretty independent thinker and I'm not afraid to voice my opinion, pretty strong-willed and I would say in the context of the environment that humans have created, I need those incentives as well.

I: That's a great point. Do you think about energy security or energy independence at all –

R: Yes.

I: -- is that an important issue for you?

R: A lot. Yeah, every time I pay my utility bill.

I: And tell me a little bit about kind of what are your thoughts on it.

R: I would love to be in a position to sell energy back to Northwestern Energy. Absolutely.

I: Maybe in Florida.

R: I'm going to work at it. We're actually going to be owning a house down there, probably, for anywhere between three and five years before we move there, and I see us as having power for the house all the time, and one of the things we want to have in a house down there is a swimming pool. And if you don't keep a pump running, almost 24/7, that pool will turn green and I don't want to pay a power bill for a pump that runs almost 24/7. But if I can have the sun help me do that, then I could do it. Yeah.

I: That's great. It will be interesting to see how that works out.

R: I'm going to do a few of those projects while we're down there. Yeah. And I'm going to save, I hope save quite a bit of money over 3 to 5 years.

I: Is there anything else that you've done in response to climate change or thoughts about climate change that we haven't discussed? It's fine, if there's not, I just want to make sure I didn't miss anything.

R: I worked my keester off – I'm on the board of development and I've worked very, very hard to make sure all of our trees are healthy and growing and forcing people that don't care of their trees to take care of them, planting more trees.

I: Is that like a city forestry initiative or how –

R: No. This development has boulevards that have trees and part of the requirement – well, where I lived before we built a house there in 2000, and it was an acre, and over the four years that we lived there, I planted anywhere between 80 and 100 plants and trees, mostly for landscaping but I – I lived in Vermont, it's all trees. Trees are good. I spent a lot of time – I have a relationship with Parks and Rec, when we have – I get them to plant at least 20 trees a year to fill in the missing trees or broken trees from last year. I have my organization paying for tree guards to protect them from drunks and cars and stuff while they're still young. So I think, I that sense, yeah, that's probably as close as I can think of right now.

I: That's a good –

R: I helped – I'm not sure if climate change is at the forefront of it, but help write letters to the government to fund the – I don't even know what it's called anymore – the diesel thing for the Montana Rail Link.

I: Oh, yeah, to reduce the idling that they do, yeah.

R: Yeah. That's a big deal in downtown.

I: Yes. That is a big deal. That's terrific. So one of the things that is interesting about climate change is how it's going to have different impacts in different places, and so

there's been a fair amount of study in what might happen here in Missoula, and as you've said, you know, who knows what's going to happen, but just kind of thinking through the models or whatever, some of the things that are predicted are more like the summer of 2007. Do you remember that summer as the last big fire summer and it was very hot –

R: Yep.

I: -- low stream flows and fishing closures and that kind of thing.

R: Right.

I: And then less snow in the winter and more rain instead of snow, and I'm wondering if it were to be like that more often, how would that impact your quality of life or would it change your behavior –

R: Well, when I tell people from other parts of the country, and I have family that live in New England still, Florida, we talk about – not all of them have ever been to Missoula – we talk about how great a place it is in the summer and I always have the caveat that unless we have a heavy fire season. My son-in-law works for the forest service in the fire arena, so the more fires we have the more money he makes. So I recognize that. I'm a season ticketholder for the Osprey and so I go to most home games, and there's a significant difference in enjoyment when there is no smoke as compared to '07. Absolutely. One of the things that got me away from fishing as much as I like to fish partially is the summers that I had not been able to get on the water because of the restrictions. You just kind of get away from it and you're doing – so it's easier and easier to not go fishing. Although when I go fish, I'm usually in the wilderness fishing, not here.

I: And do you think you guys would – it sounds like you might be moving anyway, but do you think if it was going to be like that all the time here, you would be interested in leaving Missoula?

R: No. Because if you – climate change isn't just going to affect Missoula. I tease my wife about buying a house in Florida, going down to visit and having 6 inches of water from the ocean in the house.

I: That's a trick question. You caught me on it. Where else would you go?

R: Yeah. No. In fact, I actually think as climate change happens, it continues to happen at the rate things happen, places like Missoula are actually going to be places where people go to, in my opinion. As low as that river is, it's still flowing, there's still water. The fire and smoke we have here, in some cities, the smog from cars and other pollution is as bad or worse. So this is still the ideal place – actually better place to be; climate change on the other side of the divide, out in the prairie. Doesn't sound appealing now but if climate change continues the way it's going, it could be very appealing. They know how to live without water. It's very, very dry out there. I'm not saying they don't have some but very arid, not a lot of trees to burn, very few trees to burn, so the smoke is dissipated quite a bit when it gets out there. The oceans are not going to flood it in the next millennium. So, yeah, this is exactly the place to come to.

I: Yeah, that's a good point. So I just want to make sure I didn't miss anything. If there's other things that – thoughts you had about home energy use or transportation or climate change just to give you the chance to let me know I didn't ask the right questions and that kind of thing. It's easy for me to miss stuff.

R: Other than I think – I eluded to it the government helping change our culture, our paradigms so that more people realize I should be out walking, biking or taking other transportation. I think it's a tough task, to be frank about it. It sounds like it's probably something you're going to be working on through your life, and good luck.

N6.14 Rachel

I: I want to ask you a couple of questions about energy-related issues and one of those that comes up a lot is climate change. I am wondering what is your take on the whole issue of climate change. What do you think about it?

R: What do you mean? Like, I think it happens?

I: Yeah, it is happening or not, or what is causing it?

R: Yeah, I think it is happening. I think it is manmade or man-contributed. So, yes, I understand that there is climate change.

I: What is your perspective on what might happen with climate in the future? Do you feel concerned about it? Or not concerned? What do you think?

R: I guess I am concerned about it. I do individual things that I realize don't…I know better. I do individual things that help me individually as a person like I will recycle quite a bit. But, like, I got this coffee but it is too late to wash a coffee cup so I just got a paper cup then again I am sick, so I am like or whatever. Anyway, I get most of my clothes from thrift store shopping. There are a lot of things that I do where I am more environmentally conscious that I do because of that, recycling, so because of that I am concerned about it. But, again, there is Slaveryfootprint.org you can see how much stuff you use and how many slaves you are contributing to online.

I: Aw, interesting. That seems like a good way to do that.

R: Yeah, it is really, you know, because there is like the eco footprint or ecological footprint, you know…and the slavery one I took it and it asks you how many clothes you have and how much you drive…

I: That is interesting like how other people are being treated in other parts of the world. Is that what it is about?

R: Yeah, right. Certain things that you own so you're… consumerism basically. Just like I have a ton of clothes because I thrift store shop a lot, so anyway, I was is really high because like in China, India, or something where a lot of cottons or silks come from or whatever. Anyway, you should check it out.

I: Yeah. That is really interesting. I think that is so interesting because a lot of people talk about like your carbon footprint but I haven't seen anything on that social side, the social impact.

R: It is really well done graphically. Anyway, it is pretty fun as you go through it but I don't think that take into account like second-hand materials.

I: Yeah, your clothes may not have been made in China if they were older.

R: They maybe, it isn't like a lot of vintage clothes but I just feel like if you are doing it second-hand it is less of an impact. Maybe it is not; maybe it is just owning it.

I: I understand the point you are making.

R: So, I guess there are certain things when you are recycling I definitely do it because it is easy because we have recycling on the university property, so our recycling is right behind us in the alley. We have it sorted in our foyer, you know, boxes for cans and whatever, and the glass. I purposely make trips to the Good Food store to put in our glass jars and we wash them out. So I

guess I make personal efforts like that but I don't make other efforts. My other efforts are usually to save money. But they do have an ecological benefit to them like buying secondhand and walking; but they are more of a personal decision.

I: For other reasons.

R: For selfish reasons.

I: That is interesting. That is exactly what is interesting to me. So that is great. Okay. So do you think climate change will impact you personally in the future or is it further down the road?

R: I don't know. I feel like it is the next generation. You know, if I were to have kids, it would probably impact them more severely than it would me. But I am not sure; I am not a scientist and I have not read up…I don't really have an environmental swing on things. I guess I don't keep up with news on stuff like that. So I don't really keep up on it. It would be interesting, I guess, to know when they think significant impacts would show up.

I: Actually, that is right into my next question which is how do you know what you know about climate change? Where do you get information about it?

R: Oh, I have a really funny incident about it that I'm going to try to hold back.

I: You don't have to hold back! It will be totally anonymous. Nobody will ever know you said it.

R: Totally anonymous? Okay, okay.

I: Sorry I should have gone over the stuff in in the informed consent.

R: I kind of skipped over that interview stuff.

I: Even I probably won't know what you said by the time I am done because your name won't be on the transcript. And I will delete this.

R: So, my answer is – my real answer which I think is most significant for me – that I usually date men who are the environmental type. They are "sciency" people who have that kind of edge and I don't. So I usually learn from them. That's usually the answer. Otherwise, you know, I read a ton of news sources almost daily, like it is part of my debriefing, downtime at home instead of studying. *The New York Times, Washington Post*, BBC, *The Missoulian* which I read mostly just because it is hilarious. And *Slate* magazine. So I don't read any publications like *Christian Science Monitor* or things like that usually. And my master's degree that I am going for is in public administration and has nothing to do with that. I guess most of the information that I learn is from the guys I date or people I am involved with, you know, my friends that have that edge to them that are interested in that field of study.

I: Do you feel like energy issues and climate change come up in conversation a lot with your friends or is just kind of by osmosis.

R: No, not really. My friends are usually more interested in politics so their edge and my spin as well. Maybe I learn a little bit more about that, too, through politics, if I think about it.

I: Do you feel like your political views influence your perspective on climate change or energy issues in general or not so much?

R: I wouldn't say that no. I wouldn't say that my views on energy consumption and anything environmentally friendly, anything environmentally focused, would influence my political decision that way. I wouldn't say that just because I align with a political party means that I am going to directly think what they think about that.

I: That is a good distinction. Where would you say you sit politically on kind of the political views spectrum?

R: I don't know.

I: Well, it is kind of a hard question because it is hard to box in yourself.

R: It is. I would say I am socially liberal. I typically, I don't know, am moderate. But I would be more democratic than I would be Republican definitely. It is hard when you have a public administration graduate student and you learn about some of your frustrations within public agencies and you work for the university system and it is like, oohhh, like some things could be better run in the public sector; but, I would say I am definitely a democrat but I just wouldn't say a liberal democrat necessarily. But I am definitely socially liberal.

I: That is great. That is a very good answer. Anyone who expresses their opinions is very helpful to me. So, you are very clear on that. I am wondering, again in terms of climate change, what do you think we should be doing as a society? If you kind of like had to divide the world into individuals changing their behavior, the government doing something, or businesses doing something, where would you fall in terms of like who should be doing what?

R: That is interesting. I haven't really put a lot of thought into that. There is a lot of discussion right now, you know, republican debates and stuff about isn't it Mitt Romney that said they wanted to cut a few agencies he couldn't remember one of them. But the one he forgot, wasn't it the EPA or another clean air, anyway, it was one that is environmentally focused.

I: Yeah, that was funny. That poor guy, it was just like ugh. That could happen to me at any moment but I may not be running for president.

R: There is a lot of pressure I am sure for those guys. Yeah, I guess the government's first responsibility is to monitor. There should be a balance, it should help balance what is going on and should be checking on corporations to see if their eco footprint is too large. I would leave that up to the EPA to decide that. And investigate claims of environmental justice, things that are going injustice things. So I guess that is where I would place the government's stake in it. Then, personally, I know that from friends and ex-boyfriends and that stuff, that recycling on an individual level doesn't help a ton. But, I think that that should be something that everyone does. Cities at the local level should institute recycling programs. I know Portland has one and it would also be helpful, but I am not sure if the government should mandate that products come in plastic rather than glass. But, I know from speaking with other people that glass recycling is really difficult because they don't have a lot to do with the glass. I don't know, that is what I have heard so you should use less glass products. That becomes like a social movement that needs to happen which I think happens in upper middle class or middle class educated people. I don't think it happens on the lower level. I don't think it happens with people in poverty or people who are buying a lot of fast foods or other (inaudible). Anyway, so I guess I just feel there needs to be a

social movement to make it better. I don't know that regulation needs to happen really strict. I mean I would follow the regulation and I wouldn't oppose it but I think they have had too much opposition. I haven't thought about it a lot.

I: That is really good. That is well thought out for being top of mind and you being sick. So another energy issue that comes up a lot is energy security or energy independence, like being free from foreign oil. Do you feel that that influences you… do you think about that issue?

R: I don't think about it directly unless I am reading an article about it; I don't think about it directly with my use, my personal use.

I: Would you say that you think about climate change when you are making decisions about energy use or not so much?

R: No, not really and not on a personal level. I only think about it when I am reading something about it. But, I don't even think about my personal impact because I feel like I am such a speck in the whole thing, you know a drop in the bucket.

I: Where would you say you kind of came to the way you think about energy issues? Are you similar to your parents or dissimilar or what has influenced how you? Is it just that you are kind of going through your day and it is not super top of mind?

R: I think with the recycling because that is the only thing I really do consciously to help the environment because I could just throw it away, recycling I feel like came to me because I saw how much crap like if you've ever been to a landfill, and see how much stuff is there. That made it a lot more of a priority for me. I lived on this island for a couple of months where they had to burn their trash and I had to go up there one time to get rid of some trash and everything was kind of on fire. It was a beautiful, beautiful island in the Caribbean and then you had to drive up this thing, and go down this road and anyway it is on the top of this mountain. And you're seeing this whole thing was like burning but yet you could see the beautiful ocean around it. I think I kind of recycled before that but after I got back I realized it was just disgusting. There were like dogs running around; it was just gross. So, I think even more visually I saw it and it was just gross the amount of stuff that goes into a landfill and there were only a few thousand people on this island. It was just DISGUSTING.

I: That is interesting.

R: And, you know, you see pictures of the islands near China with all of the plastic bags and I'm sure they'll be nalgene ones, too. I guess I do that, too, I have the tote bags instead of plastic bags. That is half environment and half that I hate that they all just get shoved under my sink. So it is equal frustration personally and… So, yeah, personally seeing it and so, okay, now I'm going to do it. Climate change is harder because you don't' see it. Maybe you could see it through polar bears. I don't know, just a bad joke.

I: That is a really good point. Yeah. You don't really see it so it is hard to feel it.

R: Yeah. It is hard to see the actual impact like from your hand to like a dump site.

I: Are there any other things just to ask so you kind of have an open-ended response in terms of energy or climate change that I did not ask a question about that are important for you? It is fine if there aren't; but I just like to give people a chance in case I don't always ask the right questions.

R: No, you are fine. I think you basically asked everything…I am interested to see what you find with people and their opinions. I wonder how much money really factors in to their decisions because I feel like that is what a lot of college students feel like. And people in Missoula, too, our incomes are not that high here. So, there are a lot of older homes, too, so it makes you really conscious, pretty drafty.

I: I have found quite a bit of motivation based on saving money which is really perfect for me to understand what is it that motivates people -- whether it is financial or being green or some other random factors I never would have thought of. So it has been really interesting. I won't be done for a while. You know how this process works! But I would be happy to share my results when I do get some.

R: I know I work on a much smaller scale. And MPA is very professional. So you don't have to do a thesis or anything. It is just really great which is part of the reason I chose the focus, not that my classes are, you know, they are all about management.

I: Yeah, but you don't need any extra things to do on top of everything else you are doing.

R: It will be very interesting, though, for you to find that out.

R: Yeah. So, since you are doing this whole energy thing, do you think that would make a large impact or would it be similar?

I: I think it definitely would, like you say, if everyone did it. My focus is on individual behavior as opposed to government regulation or what businesses are doing or not doing. The problem always sort of ends of being this would make a really big impact IF everybody did it. If only 5 people do it, then the impact is pretty small and it is more like a personal satisfaction thing. But, it would make a really big… I think it is like if you look at all the things that cause – you know I am looking particularly at climate change – if you look at all the things that cause greenhouse gases and climate change, it is like 40% comes from transportation and 30% comes from other energy use (it might be 30% for transportation and 40% for other energy use) so that is like energy use in your home but also energy use in factories. I have not seen a split that does home energy versus other kinds of electricity and power plant use in factories; so, if you split those two, then a lot of it would probably go to the industry and less to the homes. But it is a pretty sizeable chunk of what contributes to climate change. That is millions of people in that little wedge of contribution to climate change so you would have to get a lot of people to do it.

R: Yeah, I hear you. You gotta get that social movement. Look at the tote bags. I mean, like we are going to have an island of tote bags. But, at least people are using the totes. It seems like we live in a bubble here in Missoula so it is hard to stay socially – I don't know if you find this as well – but socially like what people are doing around the United States or what they know? It is like "we are so much more educated here" and so then it's like how do people not know that when you read a story about someone in Louisiana or something like that because like "I live in a bubble in Missoula" and when we hear about crime at like the University of Michigan -- shocking. Yeah, its like armed robberies, I wouldn't have said that three years ago but that is what is happening and I am like ha.

I: Yeah, that is really true and that is going to be a flaw in my particular research because just to kind of keep it manageable I don't have any budget to travel or anything like that so I am looking at people in this area so I will suffer from that bubble effect.

N6.15 Liz

I: So I'm wondering one of the issues that comes a lot when you talk about energy is climate change, and I'm wondering what your thoughts on that whole issue are.

L: You know, I can't – I haven't decided. I mean, I listen to both sides and I feel like what ends up on the news or the people that do, you know, a lot of what we hear are the extreme sides of both. So I'm having a hard time finding my middle ground and I just – I feel pretty confident that the – our climate and the environment change over time as is. But I don't have any doubt that we've added to that with having so many people on the planet and having all these things in the air. I have no doubt that we've accelerated it but I also believe that the Earth goes through its own processes as well. So I don't – I mean, I think as a – as people living on the Earth, we should respect it and be conscious of what we're putting into our environment but I think we should all respect that the Earth has its own life and processes and nature as well.

I: Yeah, that's interesting, Good points. So I'm wondering in terms of climate change, would you say you're concerned about it or not so concerned or where do you kind of fall?

L: Yeah, I mean, I think I'm concerned about it. I think it's – living in Missoula, I think everybody tends to be more concerned than if you were to live in – I don't even know, so New York or something – not to say that they're not concerned but I feel like Missoula is a very environmentally – everybody loves the earth and wants to be a part of the land and – maybe that's too generalized but I feel like Missoula in general is that way. I think I'm definitely concerned about it. I'd like to see the earth thrive and be good for a couple more generations at least (laughs a little).

I: Sure. What do you think is going to happen with climate change? Do you think what will change or what impacts might we be facing or not facing? What do you think?

L: You know, I think the biggest thing that has caught my attention would be like the ice caps melting and the amount of water that is increasing or the levels of the water that's increasing. I think that will create a big change. As far as like land that's available, I feel like we're taking up a lot of land. So if everybody has to come inland more on each continent, how much room does that leave for anybody?

I: Yeah, that's a good point. And so I'm wondering where would you say you get information about climate change?

L: I have no idea. Just listening. I mean, I haven't done a whole lot of research on my own. Like I said, with living in Missoula, I feel like it's a pretty main topic, just reading the paper or reading the Kaimin or it's on the news or there's a lecture or – I mean, several different ways. I haven't – like I said, I haven't had it be like one of my main focuses. I haven't taken the time to really research it myself.

I: Yeah. Sure. I think that's very common. So what do you think we should be doing about climate change, if anything?

L: I think just – I mean, I think what's happening now, like there's the green movement or everybody is becoming more sustainable and really honing in on that and saying, well, as – everybody should be doing their part, you know, and really giving everybody their own – having people take their own responsibility for what they're putting into the earth and how they're contributing or not contributing. For me, I think that's a really big thing is just saying, here's these little things that you can do as a person, you know, like unplugging your cell phone charger, your computer, whatever, you know, here's these little things that you can control and just giving everybody those ideas that they can – I think sometimes for me it's overwhelming, like I'm only one person, how much can I do. So I think the more you spread, okay, well this one person can do this and then hopefully we can see some sort of results or whatever from that.

I: Yeah. That's a good point. I'm wondering if you had to kind of divide the world up into three groups of people, there's individuals, like you and me and we're unplugging our cell phone chargers, like you mentioned, or whatever they are, businesses and government, who do you think should be taking the lead role on that issue?

L: That's hard.

I: Who do you think like would have the most impact or the most ability to –

L: That's really hard. I want to say it would be somewhere in between the government and business. Like I think the businesses, at this point in time have a lot of influence over how people buy and spend and what – the products that they're using and I think that businesses really drive what we're putting into the environment because we're buying from them and we're doing this and I think they really have an impact of maybe we could use less packaging or we could have more sustainable or green products. I think they are trying to do that but I think also we've gotten to a point where the green movement has become this – or I've seen it in Missoula a lot where everybody wants to do it and so anybody can put a label that says it's green and how do we know it's not the same product that doesn't say green on it. So I think that businesses have a lot of influence on what's going on and how consumers are behaving.

I: Yeah, that's very true. That's a great point. What do you think the role of individuals in that in terms of –

L: In terms of what they're buying?

I: Yeah, in terms of climate change or being greener or do you feel like we can make an impact as individuals or –

L: I think so. I mean, of course it would have to be individuals as a whole, you know, everybody doing – like I said, everybody doing their part and saying, okay, I'm only one person but if everybody – that's all it is, just one person doing their part and if everybody does their part, then – you know…

I: Right. Then it's everybody.

L: It's kind of that roundabout; hopefully everybody is doing their part.

I: Yeah.

L: I don't know, I think just being aware as a consumer of how much your – of what you're using and how much you're using of it and can you cut back and, you know, what parts can you contribute, I guess.

I: How do you feel about government, like government regulations on energy use or transportation or –

L: I think it's – I mean, I think it's hard to implement but I think it's a good idea, you know, like when I was – I lived in Turin for a year and I remember in the center of the city they couldn't have – while I was living there they change it so you couldn't have a car that was older than 2000 or whatever, you couldn't bring it into the city or – some cities only let so many cars into the center. I don't know how much that is a green movement as it is just a matter of space. But I mean, I think there are things that the government can do, regulations, per se, like car manufacturers saying, you know, well, you have to have – be meeting these stipulations so that the people that are buying your cars are contributing to a greener environment. I think there are regulations that they can set for companies to meet. I think that would be a big impact if they're setting these regulations and fine – I know that they have done that in some cases. I don't know how much further they can go without – I don't know weird politics stuff.

I: Yeah. Sure. Do you think your political views influence your thoughts about climate change at all?

L: No. No. I don't have very strong political views. I mean, I do but I don't have – I'm more like an individualist, like if a Republican was creating terms that I thought were more in line with my views, I wouldn't mind voting Republican; whereas, if a Democratic was doing the same thing, I wouldn't mind voting Democrat. So I don't think that it has a very strong weight.

I: You're kind of getting into it a little bit now, how would you describe your political views in general?

L: I don't know. I mean, I guess more – I think I'm more on like the Democrat than Republican but I – again, like I said, if they were a Republican that said why I want to do this, this, this and this, and, hey, I really support that, then I'm not stuck one side or the other. I'm not – I don't know. I think my biggest thing with my political view I tend to pay attention mostly to like social reform and education and where they stand on that. I mean, I'm sure it will change as I have a family or whatever, you know.

I: Those are important to you now.

L: Yeah.

I: That's great. Did you think about or do you think about climate change at all when you're making decisions about transportation or energy or not so much?

L: Uh-huh. Yeah, definitely. I mean, like I mentioned earlier, it's always top of mind it's cheaper for me to bike than it is to drive. But being environmentally friendly is also – that comes to mind when I choose to hop on my bike instead of drive my car.

I: And I'm wondering another issue that comes up a lot with energy is energy independence or energy security, like being free from foreign oil. Do you – is that issue important to you or do you think about that at all?

L: I don't know. I mean, I don't know. I feel like it gets into politics and I really am – I don't like politics at all. I would just rather – I feel like it gets too heated and everybody has their own point of view. I mean, I don't necessarily believe that we ever could be energy independent. I think if we really wanted to be, yeah, we could be but I don't – I don't know. I think there's too many politics involved for it to ever really be energy independent.

I: Sure. So I'm wondering are there other things in relationship to energy or transportation or climate change that are important to you or top of mind that we haven't covered? I don't always ask the right questions so I always like to ask kind of an open end just to make sure I'm not missing something.

L: Not anything that I can think of.

I: Sure. That's fine. I just like to give you the chance. So my last couple of questions are actually about climate change in Missoula, and there are some models that have been made, probably because we've got folks here at the University that are thinking about this stuff, of what might happen here, and so the things that they suggest is that it will be more like the summer of 2007, it's getting to be kind of a long time ago now, but it was like the last really smoky summer we had with lots of fires and like smoke down in the valley and low stream flows and like river closures for fishing and that kind of thing, so that's one-half of what they predict might happen, and the other half is that there will be less snow in the winter and probably more rain, and I'm wondering if it were to be like that, would that impact what you like to do or impact your quality of life or how would that –

L: Mm hmm. Yeah, definitely. I mean, I remember that summer and – I wasn't in Missoula but I was in Bigfork and there was a point where I couldn't go outside and run, and that was really frustrating, you know, because I like to – not that I hate the treadmill but I'd rather be outside. And when there's those advisories when you can't even go outside, you know, that definitely affects my quality of life and what I like to do and – I know this year was great for snow but last year kind of sucked and I think I only skied like once so that was frustrating.

I: Do you think you would move somewhere else or just adapt or what do you think you would do?

L: Umm…Gosh, I don't know. I love Missoula. So I don't know. I think it – probably at this point, I'm not really ready to move and I don't know where I would move so I'd probably just adapt. I mean, if it's like that here and the things that I like to do I can do here, I would imagine that the other places I would want to go are having – are experiencing the same sorts of things.

N6.16 Jane

I: Great, that makes sense. So one of the issues that comes up a lot when you talk about energy is climate change. And I'm just wondering what is your, what do you think about that whole issue of climate change?

J: Um, I think it's an extremely relevant issue and that I think that it's something that is happening possibly a lot faster than maybe people think. And, I mean I personally see it myself, these, just, what was it just this last week there was a record breaking number of tornadoes in the Midwest and it killed a record number of people.

I: Right.

J: I just really watch the weather a lot and I see all of these record breaking weather patterns happening around the world lately. And I just kind of take that as a sign of these predictions that have been happening for years now about weather change and climate change. I kind of feel like there's not a lot we can do. I don't think we can ever stop it really but I think we can slow it down and I do believe that, so I also would try to make efforts to do whatever I could to help with climate change.

I: Sure. What would you say if you were going to say, "Well, I think it's a natural process, or I think it's caused by human activity or something in the middle," or kind of…where do you fall on that one?

J: I, I mean, I do think that it is human related. I think that we are over consumers and we don't really, I think, um, like I say it's more of a modern thing. People are becoming conscious of it but we're still really living in the past in the sense that people don't believe it and they choose not to believe it so they can just continue to live their current lifestyle because it's a lot harder to make a change than to actually believe that we are destroying the planet that we live in for future generations. I do think that it's our, each individual's ecological footprint combined that's creating these massive changes in weather, and destroying the world (laugh) I guess.

I: Would you say it's something you are concerned about or…?

J: Yes, yeah, I think about it all the time actually. Like I say, I'm kind of in to the weather and kind of what's, you know, world events and stuff like that. Like the New Orleans hurricane. You know, when I see stuff like that happening it's, and it's all around us, it's really kind of hard not to think about I guess.

I: Yeah, sure. I'm wondering, what do you think are the impacts of climate change going to be? Either already are or going to be, what do you think is going to happen?

J: I think that, I think that it is going to continue to get worse, um, it just depends, I mean, like I think it's a matter of acceleration. I mean just from the little bit of knowledge that I do have, that kind of seems to be the consensus that it's already something that's happened. It's through time, it's already something, I mean the damage that we've done that we can't really go back and we can't take it back but it is something that we can make efforts to slow down or change. And I think that it's just a matter of how many people can get on board. You know, and that's the hard part. It's not, cause, I actually just watched a program the other day and it was taking a couple of people from the city, like New York, and it took them out to one of the sustainability little towns where they function all on sustainable living, their housing, the way they dispose of waste and everything. And it was just amazing to see how these city people were just appalled and they had no idea about sustainability and they also didn't believe in their impact. You know, they're like, "I don't believe that we're about to run out of oil or resources, I just don't believe that." And so this kind of changed their thought process. Again, I mean it's just how do you change the minds of people and especially worldwide, you know, cause it's a worldwide issue. So I kind of see it as maybe something that might not be able to really make an impact on because it takes a collective force.

I: Yeah, that's a very good point. And that actually was going to be one of my questions, what, if anything, do you think we should be doing?

J: Yeah, um, I just think that the number one word of mouth, because, that is, I mean, the society that we live in is really based on, we really take value in what our friends and family think and say versus what we might see in the media or something. So, just maybe making effort, even if you're just one person, and just standing up for what you believe in. You know, and whatever knowledge you do have—sharing that knowledge. I think that just that a small amount of us can spread and maybe create believers, maybe inform somebody of something that they didn't know and plant that seed for them to want to discover themselves more about these issues.

I: Yeah, that's a really good point. If you were going to divide the world up in to like government, business, and individual people like consumers, who do you think should be taking the lead or what do you think those different groups should be doing and…?

J: Yeah. I think it's funny because I almost feel like consumers already have taken the lead in a sense. Um, over like business per say. So, I think that maybe the government needs to step up and start setting some examples and maybe putting a bigger message out there. I think it did happen, like the Al Gore climate change discovery, that there was like a movement there but it's kind of declined. I mean, it's out there but ..and then definitely I think, you know, um, maybe big businesses need to be a little bit more energy conscious. I don't really know a lot about it, maybe they are. I know I have heard of new, ah, as far as people building new buildings, new sky scrapers and stuff, there's some new technology to make more sustainable buildings as far as distributing energy and stuff. But, um, yeah, I think again it's kind of like at that lower level. You know, so, the consumers kind of make those changes and make those choices and you know, maybe it will spread from there versus from up-down, bottom-up I guess.

I: Yeah, that's very interesting. Do you think that your political views influence your thoughts about climate change at all?

J: Um, not necessarily because I don't really have strong political views. I mean I definitely may have my own opinions but I wouldn't say that, I'd say I have a fair amount of knowledge about political issues but I think it's more just who I am, like the things that I believe in as an individual versus politically.

I: Sure. Do you feel like you think about climate change at all when you're making your own decisions about energy or transportation, or…..?

J: I probably should more, to be completely honest.

I: I think we all should.

J: I still, you know, I mean, it's hard sometimes we get lazy and you know, make bad choices. But, I do, I try to. Like, I could, I guess I make small efforts by not getting another car and realizing that I could. Maybe go out and doing something like that. Trying to ride share and things like that, so I make small efforts I would say.

I: I'm wondering, another issue that comes up a lot with energy is energy independence, or like energy security or not using foreign oil, that kind of thing. Does that, do you think about that at all, or what do you think about this?

J: Yeah, um, I , again it's something I have little knowledge about but from what I understand, I mean, it probably would be better off to not use foreign oil but then I look at issues like with us drilling for oil and then the recent oil spill that happened, that's frightening. I mean I do see that there needs to be some kind of change, maybe more research in to like alternative forms of energy, or oil. But I don't really; I don't think I have enough knowledge to really make a bold statement. I mean I do think that it has negative effects of us purchasing foreign oil but there are also benefits and risks, also, of turning elsewhere I guess.

I: Sure. I'm wondering if there's anything else that you've done in response to climate change that I haven't asked you about. If there are other thoughts you have on it that I haven't asked the right question to (inaudible)

J: Yeah, not really that I can think of other than just kind of, um, talking about it, you know, kind of talking with people about it. I'm pretty passionate about things that I believe in, so I've definitely gotten in to some fired up conversations that, I hope that, I kind of think that I've affected people at times in conversations with them and stuff.

I: Does your family and your friends kind of feel similarly to you?

J: I think so, yeah, yeah, definitely my parents. We a lot of times have conversations about world issues. We've definitely talked about climate change and my mom and I are kind of big in to the weather. Like I say, I don't know, it's just something we are always watching the weather and there's that movie "Day After Tomorrow" and it's just frightening because we watched that movie when it first came out and now we're like, wow, this is, I kind of feel like that's happening. So, um, so yeah, we definitely do talk about it.

I: My last couple of questions are actually about climate change here in Missoula. There's been a lot of research on what might happen here like predictions about what will Missoula be like if it's, you know, if climate change advances. A lot of the predictions are that it will be more like the summer of 2007 which is kind of a long time ago now. I don't know if you remember that summer or if you were here.

J: I don't think I was here.

I: It was like the last time we had a lot fires and a lot of smoke in the valley, and like stream closures, the water levels were low so there were fishing closures.

J: So drought, not as much snow?

I: Yeah, yeah, and exactly, not as much snow in the winter, more rain and less snow. So, you know, winter sports would be impacted. And I'm just wondering, if it were to be like that would it impact you quality of life? How might you respond if it were going to be…

J: Well, definitely the fires. I have asthma, really bad asthma. So, um, and even as it, actually this last summer wasn't bad but, yeah, I remember before I moved, I moved away I think in 2001 so there, or 2002, I don't know—somewhere around there, one of those summers prior it was, there was so much smoke in the valley that I almost had to evacuate.

I: Wow.

J: But, it would definitely affect my quality of life in that regard. And I guess in every regard, you know with the rivers being low and, um, you know, it affects nature and I think part of living in Missoula is to go out in to nature. You know, so, the more we become separated from that because of potential reasons that we can't, you know, go out into it. So that does affect your quality of life for sure.

I: Sure. So I'm just wondering, I just want to end with a kind of open question: Is there anything that you feel like I've missed or other things that you want to say that relate to energy or transportation or climate change. Again, it's fine if there not……

J: I guess just as far as, you know, other places that I have been compared to Missoula, I do have to say that Missoula is, I think the town does do a good job of promoting, um, you know, public transportation. I mean our bus system, they've invested money in to the buses. Then again I guess the buses are running on some really nasty stuff. But you know its better that everybody packs in to a bus versus driving their own car. So I do see a lot of effort, I think this is a great little town for people being conscious of our, you know, climate change and conserving energy. Yeah, so I do, I do see a lot of progress for it being such a small town I guess. So it's a good thing. A lot of people bicycling, great bicycle town.

N6.17 Leo

L: Well, yeah, definitely happening. I mean, it's been happening for 20,000 years, according to the fossil records. Like I said, do I think in the last hundred years of industrial revolution that humans have accelerated it by pumping out greenhouse gases? I think it's pretty obvious that it's true. It's here and we should use this planet, you know, it's like I'm not going to curb my usage because I feel like I'm contributing to global warming. I don't think that – it's kind of like when the settler came to the forest, should I cut down those trees and build a house or not? Should I impact my environment? Yeah, if it makes your life better, you're going to impact your environment. If you need a house, then cut down a tree. (brief interruption to take a phone call)

I: So would you say you're concerned about climate change or not so much or where would you say you are on that?

L: Here in Montana I'm not too concerned about climate change. I tend – a little warmer weather wouldn't hurt us too much. It would probably benefit us. You shift that climate zone a little further north and all of a sudden we're in a little better situation. If you just take a look at 100 miles south of here, Salmon, Idaho, and it's beautiful down there, green summers and you just shift it a little bit, it doesn't seem – it's like, you know – it would be nicer if Cutbank was a little warmer in the wintertime, you know, I don't think – here, at this parallel – you know, if I was living on a coastal city with my house right on the beach and hurricanes and sea level rising, it might worry me a little bit more. But, here, a little shorter winter, a little longer summer, I don't really have that much problem with it. I say fire up those coal-fired generators, (laughs) you know, save me the trouble of moving south, just move south here a little bit. Yeah, it seems – from my perspective, you know, I'm 42 years old, have winters gotten less severe? '94 we had some really huge snow. This winter seems like it's dragging on forever. I think it's cyclical a little bit. It's hard to tell over the long-term whether Montana's really warming up. I don't really see it too much. So that's kind of – I don't mind global warming right now, maybe 30 years from now it might be more severe.

I: Yeah. So it sounds like in terms of local concerns, you're not –

L: Not too much, no.

I: -- and in a larger sense, do you feel like it's something we should be worrying about or not so much?

L: Yeah. What can I do to change it? I'm not really a big policymaker. Should it be addressed? Yeah. I mean, pollution should be addressed. Just like living here in Missoula in the '70s when – fireplaces, and they put the ban on that, in almost all towns that are built in valleys in this region– look at Colorado, Denver, the problem with the inversions and wood heat, Missoula is such a nice, much nicer place since then, much, much nicer. We used to live in Stevensville and we'd come into Missoula and come shopping and it was – you could just smell it. The pulp mill being shut down and – wow, it's such a nicer place because of it. It concerns me that they're putting a big smoke stack here in the University with – just got rid of one smoke stack, why do you want to put another one up?

I: And is that the biomass --

L: The biomass --

I: -- heater you're talking about?

L: I've talked to people about some of the air scrubbers that they plan on putting in and I think there's some really good technology out there for that, but still have to do something with that waste, whether it's in liquid form or whether it's in smoke, you still have to do something with it. It's still – you're still going to get the sulfurs and the carbons coming off of wood.

I: Yeah, that's a good point.

L: So it's got to go someplace. It seems like it's kind of a green idea to have a biomass. It's kind of – you could heat and produce electricity, run boilers with it. So, I mean, it's probably a good idea but I don't like the idea of another smoke stack in Missoula with the inversions. I mean, with Smurfit being shut down, there's days when I was out that – the wind was the right way, you could smell it here in town. So I think it's not good for the economy that they shut that huge employer down, but I'm pretty happy that they're going to scrape that mill. I mean, they're not going to build another paper mill out there. I don't think that Missoulians or people in this area with the Democratic base that it has to allow another manufacturer like that to come in to here. It's probably not in our backyard kind of mentality around here. I think it's great that they're tearing it down.

I: Primarily for the pollution? –

L: For the pollution, yeah. I have an aunt who has property out there within a rock's throw of the mill, and it is just so much nicer out there with it not running.

I: Yeah.

L: And I'm – I wouldn't fish out there. I wouldn't fish anywhere below that plant just because the smell while that place was running, you can't tell me there aren't pollutants.

I: Are you a big fisherman?

L: No, not really, but I would say – they can say it's as clean as they want to say but I've been out there and I can smell the toxins and stuff.

I: So on – in terms of climate change, what do you think will happen in the future? Anything or are we going to see changes? What are you thinking?

L: It's sad what happened there in Japan with the nuclear crisis. I would like to believe that's safe, a safe alternative. Public support is going to be hurt by those incidents. I think if it's done right that nuclear is probably the way to go. I was interested to see that – I can't remember the company that applied for a patent for a nuclear plant that was about the size of a Volkswagen bus that would power a whole city like Missoula – actually I think the technology is evolved in it that it's getting safer. The sad thing about that is the terrorist threat, you know, because if you bomb a nuclear plant or something like that, that's – you really affect a large area. But I do think that that's probably the way that a lot of densely populated – France is really big into it – I think that nuclear is probably the way of the future. Places like the west in the United States, there's – they're

backing away from hydroelectric wild and free rivers and that kind of thing. I think that that's – at the time, I mean, it's a great source of energy. It's hardly polluting but I don't see any big dams being built in the United States. They're building a big one in China the Three Gorge dam. They have a huge demand. It's an emergent economy, huge demand for energy, and the kind of coal they have over there is high in sulfur so coal fire doesn't seem like a very good idea for them. The east coast of the United States, they relied heavily on coal and oil burning and stuff like that. I think that that is – my wife was out in Boston this last year and I think they're really doing a lot to clean up the air in that part of the country. So more reliance on nuclear energy and grid systems that pump coal fire from the western states. Like Wyoming, they have – they're building coal fire down there. It – the pollution doesn't affect that many people down in Wyoming, you know, they can -- better grids will make that power more available on the east coast, less coal burning on the east coast. I mean, I think that's probably a pretty smart move.

I: Who do you think should be kind of leading the charge? Do you feel like it should be government or businesses or individuals should be changing their behavior or kind of how do you think –

L: How do I think who – who do I think does? Or who do I think should?

I: Kind of both. Both will – like how do you think it will really happen and how do you wish it would happen?

L: Well, big businesses, corporate America is the one really driving that. I mean, it's a huge investment in infrastructure to do something like that. So it's got to come from the private sector. I mean, with government support, I mean, so – the talking heads in Washington and Beijing, you know, they put out this we've got to lower our carbon footprint or whatever, but it's really driven by economic factors. That's where – everything costs money and I think that demand will come from the private sector, the economic factors will drive that.

I: And what do you think about individuals and individual behaviors; how do you feel that fits in or does it?

L: Just like – well, like the – everything has opportunity costs associated with it; I mean being green has an opportunity cost. Pay a little bit more for recyclable packaging, that costs. So on an individual basis, I don't think individuals make that much impact but I do believe that changing – how to word it – but you make it the right thing to do. I think you can affect enough people that it makes a difference. It kind of goes back to the recycling thing. I think that people here or people that I know are a little more conscious about recycling than they were 10 years ago. I don't know how much an individual changing their behavior makes a difference. It's like buying an electric car. I'm not polluting but to get that electricity to your house, they had to build another coal-fire generator, you know, and if enough people buy electric cars and build another coal-fired generator, that coal-fired generator puts out more pollutants than all the cars that it's able to power. On the big scale of things is the electric car the right answer? Well, the electric car might in net be more polluting than the gas car, than a high efficient propane vehicle or something. I think that it's interesting that the private sector, the corporations are trying to get out there and doing that, I think innovation will come along. I overheard somebody saying about this sterling loader. Have you heard of a sterling loader?

I: No, I haven't.

L: It works on – it seems farcical to me but it's some kind of heat transfer that is 0 polluting, or it's supposed to be. It's probably like the hundred mile per gallon carburetor that was squashed by the oil companies. You've heard that urban legend?

I: No.

L: Some guy invented a carburetor that would get you a hundred miles to the gallon but the big heads in Detroit got a hold of it and destroyed it and squashed the patent and all that stuff, you know, because of the relationship with oil and stuff. I think that with technology the way it is, the availability of information, and just how innovative people are, that there will be things that come along that are innovative and less polluting and there will be a change, a shift. Just look at the '70s, the 1970s vehicles that got 8 miles to the gallon and look how much better cars are now, they get 20 miles to the gallon, you can stand right next to a Honda Accord, you can't hear it running and you can't smell it, they've really improved the emissions on cars. I think innovation and technology will take care of a lot of the individual polluting things. And hopefully, too, with – if they build a coal-fired generator and they set these standards, you know, like the Kyoto protocol and stuff like that, and say, yeah, if you're going to build this coal-fired generator, it's going to meet this polluting standard or you're not going to build it. So I think those are good things. I mean, it's nice to live in a place where there's great environment. I think it's important to see the environment has improved here in the last 30 years, just with regulations. Those are all good things I think.

I: Yeah. Great. Those are all really good points. I'm wondering if you think you'll changes due to climate change in your lifetime or longer term or shorter term, what do you think?

L: (Long pause) I think there's plenty of evidence for climate change. I mean, or global warming or whatever – whichever PC you want to call it – I think there's plenty of evidence for that. Katrina is probably one of the most damming evidences that this – one of the oldest cities in America built below sea level and then this disaster happened and – I think they can attribute that to – that's a sign of global warming. Hurricanes seem to be an increase of hurricanes. Coastal cities, you know, disappearing shore lines, melting ice caps, those seem to all be real signs of global warming. On the other hand, like I said, too, just a short geological time frame than we've seen huge changes in climate in just 10,000 years. So that's a pretty short amount of time on the – that large of a time frame, geological time frame. It's a pretty short amount of time to see major changes. I don't believe that I'll see, you know, pole or ice caps flipping and huge – entering into a new ice age or anything because of what we're doing. I think if you look at the earth from far away, you can't even see what humans have done but look at certain places, especially developing countries, that's – it seems pretty serious in developing countries. Humans are making more of an impact on their environment. So you do see some human caused global warming but like on the geological scale, it's like how much of it? Should we do something about it? Well, yeah, we should probably do everything we can but we still should be a human, we should build cities, dams and make our lives better. I think the billion people in China deserve the same quality of life that we have here. I don't think that we should be able to say, you can't build that dam and you can't have color TVs and you can't drive cars, we're driving cars and you have all the infrastructure that's – it's a

double standard. I don't want to give up my quality of life. I'm concerned about it but I'm not going to give up my quality of life for it. It's kind of an honest answer.

I: That's a very good answer. Absolutely. Where would you say you get information about climate change? Is it something you seek out information about? Where would you say you hear it – you definitely know a lot about it.

L: Just from …it's on the news. We've got Steve Running here, you know. I didn't watch the movie, I didn't see the Inconvenient Truth. Did you?

I: I have seen it. Well, have I seen – I've read the book. I don't think I have seen the movie, actually. Yeah, I probably should see it since I'm doing research on this stuff.

L: Yeah, I think probably just what's out there, what's fed to me is where I – the CBS Evening News. I don't actively seek out a lot of information on global warming.

I: Sure. And I'm wondering do you think your political views influence your thoughts about climate change at all? Do you think they're related? It's okay if the answer is no. I'm just wondering.

L: Hmm… my political views (long pause) I'm just thinking if it does. No. I mean – no. I'm pretty much mainstream, maybe lean a little left but, you know, I also see the importance of corporations and money, I'm in the business school, you can't help but be a little bit right on some things, too. Political views, I don't really – no, I don't think it affects me.

I: How would you describe your political views? You said maybe a little –

L: Pretty mainstream. I would say not extreme one way or another. Being a student it's hard not to be a little bit Democratic, you know, maybe a little more on the Democratic side than I do the Republican side. Being an atheist, I'm not much of a Republican.

I: That's interesting. That's very tied to –

L: Republican – yeah, right wing. I think they're completely idiots. They base ideology on – you should look at some facts instead of ideology. So, yeah – because of my religious views, I tend to be a little bit more Democratic.

I: Yeah, interesting. Terrific. I'm wondering if energy security is an issue that's important to you. Climate change is one issue that comes up a lot –

L: Yeah, so –

I: So like energy independence or –

L: Yeah, like in a romantic view of living off the grid is one thing but – you know, man I love having the gadgets. I have outlets upon outlets of stuff plugged in. So, yes, energy security, I think that's just what we expect, you know, living in the United States. We have the ability to go plug anything in anytime we want to. Gas stays at $3.00 a gallon at the most, you know, so it's outside of our comfort level right now, I think that security plays a big part of that. It's kind of on your mind that you've got these emerging

countries, like India and China, that are demanding so much energy that I think we're pretty insulated from that for the most part, especially here in Montana, like I said there's plenty of hydro electric power and stuff so I feel pretty secure about energy. I think we have a pretty well developed infrastructure for that. With the crisis in Libya and gas prices go up, that's where you see and feel that – that's where the security kind of feels a little threatened. But as far as electricity, I don't feel threatened. I think we have a really good infrastructure for that. But oil, I mean, emerging countries demanding more energy. You wonder if you'll be able to afford to drive with things. Oil over a hundred dollars a barrel and stuff like that, it starts to curb your usage. You don't take the weekend trip because it costs a lot more. I think that's the fear of security is mostly affected when it comes to oil.

I: Yeah. Sure. Sure. And do you feel like it changes your behavior or your – prices, mainly you had mentioned.

L: Yeah, the prices of stuff. There's that direct correlation between the price of a gallon of gas and gallon of milk that all of a sudden that your month doesn't go – there's more month than money when those things start to go up. I see that, I feel that, you know, when prices, oil prices go up and food prices go up, it starts to curb your behaviors.

I: Yeah. Sure. I have just a couple more questions, and they're actually about locally here. I don't know exactly why we have all this, probably because we have people like Steve Running here, but they've done some models of what they think might – Missoula might look like and the Missoula area might like if climate change were to increase or to progress. And it's kind of like the summer of 2007. Do you remember that? That was like the last really heavy fire summer we had.

L: 2007?

I: It was like the last summer we had where we had a lot of fires and smoky air here in Missoula and a lot of days over 100 and streams were closed for fishing and that kind of thing because the water was low. So I'm wondering – and then in the winter, obviously the prediction is there would be less snow and maybe more rain, more precipitation that's rain, would that impact you if it were to be like that all of the time, would that impact your quality of life or not be a big deal or kind of how do you – how would that play out for you?

L: The summer of 2007, I'm trying to think where I was.

I: It's kind of a long time ago now but it just happens to be the last summer that was really like what they predict.

L: Yeah, I guess it would affect me. I like to recreate in the summer, and with more forest fires, that's part of living in the mountains. Better timber management might help out a bunch. Huge wilderness areas like the Selway and Frank Church and that huge area there, that's – forest fires are part of the normal thing that goes on in a huge – you let it burn because it's all protected. I think that's cyclical as well. You have forest growth, most of the forests around here are 75, 80 years old haven't even had a fire. If you don't manage those forests, that timber, you're more likely to have fires. How much is that related to – fires are probably "the" thing that affects the most. I've seen some models about global warming and the increase of forest fires. Really kind of uncomfortable

when you have a lot of forest fires, smoke, less activity outside. But how much of that is just cyclical based on a forest, you know, it's got a life span, if it's overpopulated, it's going to burn. Is it more likely to burn because there's global warming? Drier conditions – yeah, that would affect me. It affects everybody. Rain falls on everybody the same.

I: Sure. I'm wondering if there's anything you think I've missed in terms of climate change or energy use or transportation that I just didn't think to ask that is important. It's fine if there's not, I just always like to make sure I didn't miss something.

N6.18 Lynn

I: I am wondering what are your thoughts on climate change? What do you think about that whole issue?

Lynn: Oh, I deinfitly think it is an issue. I definitely, uh, I'm just not sure what all you want me to say about it.

I: Well, generally, you know, do you feel like it is happening, not so sure it is happening, or?

Lynn: I definitely feel like it is happening. I mean, Just like little things I remember when I first came here, I feel like it snowed a lot more and I feel like our winters are really changing. It seems like our seasons are changing just a little bit; but, no, I totally believe that climate change is a big issue. I don't know a lot of the technical things about it but I do know, I just see the glaciers that seem like they are shrinking and so I definitely think that it is an important issue.

I: Do you feel like it is kind of a natural cycle or something that humans are contributing to or both?

Lynn: [Long pause] I don't know. To be honest with you, I do feel like it probably something that humans are contributing to but I don't know enough about the scientific data to say like is it related to the ocean and the temperature of the ocean and all of that. I guess I don't really know. I guess I would err on the side of that humans are causing it because That is something you can take care of, work towards and help, and try to improve where you can't really do much about the temperature of the ocean. If it is that then it is. But I think it's probably…I think that humans are definitely part of the problem for sure.

I: That is a good point. Would you say you are concerned about climate change or bothered by it?

Lynn: Yeah. I am not losing sleep at night but I am definitely concerned just about it because it has so many impacts. I mean like on our water supply. I think could have major impacts, so it is definitely a concern.

I: What kind of impacts do you think might happen or are likely to happen?

Lynn: The number one thing I think it is our water. I mean places like Arizona, I just think it could have an ill effect on our water supply and our growing seasons and …

I: You could barely even get a tomato this summer! I don't know if that is about climate change but I didn't get any tomatoes. So do you feel like things are going to change in our lifetime or is it more in the future or somewhere in between?

Lynn: Well, I think things are changing now. I am just not sure of that rate change and how much we can slow it but I feel like it's, I don't know, I honestly don't know.

I: Where would you say you get your information about climate change?

Lynn: Well, I hear a little bit about it around here and, you know, probably TV and the newspaper and just by talking to people.

I: Do you feel like it is something you are kind of seeking information on or is it just always around?

Lynn: I think it is just always around. I don't seek it out; I just know it is an issue and so we hear about it and then you listen. And I can't think of anything right now, but you'll hear something that is just crazy facts that someone is presenting and it just makes you aware of like Wow, this is bad; this isn't looking good.

I: Yeah, it is kind of hard to avoid here at the College of Forestry. So what would you say we should be doing, if anything, about climate change?

Lynn: Well, you know, I think we are on a decent path. I think as far as climate change goes, I guess transportation. I think that is probably a good start, trying to get reduced fuels going up to the air. I don't really know what all I could do besides that, just being careful of that sort of thing.

I: Do you feel like the government should take a primary responsibility in doing things or should individuals or businesses or where do you feel that responsibility or, you know, who would be effective, who should and who could do something?

Lynn: I guess the government probably; there is definitely a role for the government in that respect, of learning about it, trying, you know, and obviously educational settings are excellent places for this sort of thing for just learning about it, scientific data and then there is programs so people are made aware and of what things to do. So I think it is more than one. I think that the government should be involved and also think that universities are very, very important.

I: What would you say the government should be doing, more kind of education, or regulation, or a combination or?

Lynn: I don't know, maybe help funding programs to do research and also to, after the research is done, kind of make people aware of what can happen. Just being able to just help fund programs, that its such an important issue. I guess funding is probably what I would say.

I: We will take that here! Ha ha. Do you think your political views influence your perspective on climate change at all? It seems like it always gets really political, a really political issue.

Lynn: I am not super political but I guess just the thought that wanting the government to be involved shows a little bit that there are some politics in it right there. I do think politics are involved in the whole situation.

I: How would you describe your political views or perspective, not necessarily this party or that party, but just how do you feel about government?

Lynn: How can I answer that? Let me just think. I guess, I'm not sure how to answer that. I think I'll skip that one.

I: Does climate change come up at all in your mind when you are thinking about energy use or transportation or not so much, you know, day to day?

Lynn: Day to day like if I'm driving do I think about climate change? Honestly, I don't think about climate change.

I: I have had people say absolutely.

Lynn: I do feel guilty sometimes because I do drive a lot, but I just feel like with my family situation that we're in I just don't know if there is much else I can do about it. Actually, our family has tried to, like we do try to make, instead of three trips to the store or one go here and go there, we will sometimes combine and try to do things so we are not driving quite as much. I don't think on it on a day-to-day basis.

I: So another issue that comes up a lot with energy is energy security or energy independence like having a domestic energy supply. I am just wondering what your thoughts are on that issue?

Lynn: I favor having energy independence for sure.

I: So kind of in terms of energy independence or energy security, does that kind of play into your thought process about your own energy use, kind of similar to the question on

climate change, like do you think about that as you are making decision about what car to get or how to use energy?

Lynn: Not really. when I think about my car or doing those sorts of things, I am actually thinking about I want a car with good gas mileage that I can afford and that is big enough for my family. Those sorts of things. I think I feel like I am conscious of all the energy things, but I can't always accommodate it. I do my best but…

I: You have to be practical, too. And in terms of energy security, what do you think we should be doing about that if anything, sort of "we" whoever "we" are – you know, the government, or individuals, or businesses.

Lynn: You mean just like having our own energy?

I: Yeah, to kind of accomplish that goal.

Lynn: Well, again, I am not an expert on this so it's a little bi hard to explain.

I: That is fine.

Lynn: I feel like that maybe we should make use of all the different types of energy that we have and, like I said, I do feel that we should be energy dependent. So I am in favor of the wind, preserving or creating energy, and maybe even coal and all those things. I feel like we have a lot of learning and experimenting to do to figure out which ones would work and which ones. you know, that sort of thing. But, I think it is 100% worth doing for jobs alone, trying to keep jobs.

I: That is a good point. Are there any things in terms of climate change or energy security or energy issues that are kind of important for you that you feel I have not asked about? It is fine if there are not. I just like to ask.

Lynn: I don't think so.

I: So one of the things that I am really interested in is if climate change does happen or happens the way the climate models -- which are produced right here at this university! – if they happen the way that those models suggest, what would people do? How would people be impacted? The summer of 2007, I guess I could say this summer, too, was the last really smoky, hot summer that we had. Well, we just kind of had another really hot, at least the fall was pretty smoky. So the prediction is that basically there will be a lot more fires and a lot more smoke and less water like you said, less snow and lower stream flows so fishing might be impacted or boating, stuff. Those are what the models predict so I am interested in how those things have already impacted your life or your quality of life and what response you would have if that is what the future is like. How would it impact you?

Lynn: I feel like we are actually pretty fortunate. I don't feel that a lot of those things, like every day, for sure, but I do feel like the fire season is probably one of the more impactful things for me right now … it impacts like our recreation for sure. It seems like many of the years, we have to try to jam pack our recreation in before August because a lot of times in August there are fire restrictions so we wouldn't be able to camp. And the stream flows, or just playing in the river. So more recreational right now for me. I don't feel like I have to take a shower once every other day because we are running out of water I'm not feeling that pressure or anything like that. So I feel we are still fortunate and because conservation is still in our hands right now I feel like a lot of times but I feel recreation I believe is the most impacted.

I: Yeah, sure.

Lynn: And I would say also just with oil and gas prices and stuff those are probably the most impactful things.

I: So if it were going to be like that all the time, would it impact, like, would you move or just adapt, or kind of how?

Lynn: I think we would adapt. I don't think we would move. I think it has been like that for a while but it is just getting a little worse. So I just think we would adapt.

I: And you mentioned oil and gas prices going up, do you feel like that is kind of impacting what you do or what you chose to do?

Lynn: It's huge. It does impact what we do for sure because just financially being able to travel or, you know, you are taking your kids to daycare or school or their events. I don't want my kids to not be in an event because I shouldn't be taking them there or have different transportation.

I: Yeah, it maybe changes how much you drive or something like that.

Lynn: Right. It is more expensive so we just try to limit how much we drive. Like I said, we try to sometimes make two trips into one instead of going everyday. And the price of gas is just, you know, we are in a recession so it just makes it even worse because your bills are going up and your income is not.

I: Right. And did that play into your decision on the gas mileage in your car, the price of gas?

Lynn: You know, not so much when I bought my car because I mean, it definitely I I shouldn't say no, I was thinking about that – but I am thinking about it more now. Because when I bought my car, it was still fairly low. It has really skyrocketed since. So, if I were buying a car today that would be much more of a factor than it was before. Even though it was still a factor before, it would be more now.

N6.19 Grant

So one of the issues that comes up a lot when you talk about energy or transportation is climate change and I am wondering just kind of what are your thoughts on that whole issue?

G: Well, if you had asked me probably a few years ago, like when *An Inconvenient Truth* came out and stuff, I think I bought into it a lot more back then. Now I guess it just seems like in the presentation of it that it was happening a lot faster. They wanted you to think it was happening a lot faster than it seems to really be happening. So, I mean, I just can't see it being that big of a factor in the next few hundred years or whatever. I guess that's basically it.

I: Yeah, that is fair; that is very fair. Would you say that you think climate is changing?

G: I think it is definitely changing but I think it is a lot slower than they let on and it is just one of those cycles of the world. I think it is good that people have become a lot more conscious in the past few years of that and it probably helps slowing it down to an extent. I think there are a lot of benefits that have come with that. A lot of solar technology. A lot of solar technology and just technologies all around and people finding ways to offset their carbon footprint by buying energy credits and stuff.

I: Yeah, that is a good point. So would you say that climate change is something you are concerned about or not so concerned about or kind of rate it on that.

G: Probably not extremely concerned. My dad actually has been doing stuff back in Portland. He has been setting up – he is one of the first guys to be setting up -- electric charging stations for cars back in Portland and they built one of those. I think they have the grant money or whatever to continue building those and they are gonna build about seven more or eight more in the next few years.

I: Does he work for the city?

G: No. He actually is an independent contractor. I want to say he went to a couple conventions or seminars about it. He is a commercial roofer so I think it came up in the seminars he was going to on that and found out about that. Obama has an incentive to do it – or had an incentive to do it -- but I think it has passed now. But they got the money in time so he and a few other guys have started building those. I think that is cool. Electric vehicles will probably play a major part and I think that advancement in technology with those is important, too, because right now it is more that those cars are developed for inner city transportation vs. like if I want to drive back and forth to Portland, it is not going to do me a whole lot of good because I would have to stop and charge for a few hours or whatever. I guess that would be my thought on it.

I: What do you think, if anything, will change with climate change and what do you think – what kind of time scale, you mentioned hundreds of years?

G: I guess a lot less than I thought it was cause like *An Inconvenient Truth* wanted you to think in the next five years there won't be any more ice on the planet. And again I read some more on National Geographic like in the past week or like the past year like the overall average temperature have gone up one degree Fahrenheit. I mean it is relatively small; I am sure it is more in some areas and less in some areas. It doesn't seem to be that extreme.

I: That is a good point. And I am wondering where would you say you get information about climate change?

G: Let's see. Just kind of when it appears. Like I said I got some of it from National Geographic just a week ago.

I: Would you say it is something that you seek information about or just kind of when you see it you check it out?

G: Probably more that when I see it I check it out. A lot of like where I get my news is vs like global news I like to go to Wikipedia and see what their top things are and I somehow get going on that from one subject to another or one article to another. I guess that is where I find it. I guess it is just more of a stumble upon it than to just seek it out.

I: I am wonder what you think, if anything, what we should be doing about climate change?

G: I think we are taking a step in the right direction. I mean everyone might not be on board but a lot of companies are like I said buying energy credits, a lot of technologies are advancing like electric vehicles, solar technology and I think just technology as a whole is advancing. And I think that is kind of what needs to be done in order to lower the effects of climate change global warming.

I: Yeah. That makes sense. What would you say if you kind of had to pick between government doing something, businesses doing something, or individual people changing their behavior? Who do you think should kind of be taking?

G: I think it is great when the government gives incentives for it. For the most part I think it should be an individual's choice. I mean the government shouldn't have some type of enforcement on what type of vehicles you can drive and what vehicles you can't drive. I think it should be up to the individual. At the same time, when the government puts incentives out there where they are not forcing you to do anything and not making it a law but putting incentives out there so people will do it. I think that is good.

I: Do you think your political views influence your thoughts about climate change at all?

G: [Long pause] I guess a little bit. Obviously, in the media there is the connotation that goes with the liberals are more into "save the planet" and the conservatives are more not so worried about it and have coined the phrase climate change instead of global warming and stuff. But for me, at this point I would consider myself pretty moderate so I guess it doesn't really play into it as much.

I: That was actually going to be my next question was how would you describe your political views in general?

G: Pretty moderate if anything more conservative.

I: I am wondering if climate change plays a role at all in how you think about energy use or transportation?

G: Yeah. I think that there is really no need I guess to waste having a light on or having the air conditioning on or the heat on if you don't need it and if that is helping a greater cause overall, might as well do it.

I: I am wondering if you think at all about the issue of energy security like freedom from foreign oil, or that is another issue that comes up a lot when you talk about energy and I am just wondering what your thoughts on that might be.

G: I guess on that subject I'd be a lot more leaning towards the conservative side because I think that wildlife and animals are great but at the same time I think humans come above wildlife and

animals. I think there are certain areas that need to be drilled but I think obviously you need to leave national parks and that type of thing out of it. But I mean if there are natural resources to be tapped, you might as well use those in the United States that we have vs. just I mean allow some animals to have their habitat, but if they can be moved, they can migrate, I think overall that should take priority to become more independent of other countries' oil sources and energy resources when we have the ability to tap into our own in America.

I: I am wondering if there are other thoughts you have about climate change or things that you have done in response to climate change that we haven't discussed. I just always like to make sure that I haven't missed a question.

G: Nothing I can think of off the top of my head.

I: That's fine. I like to have kind of an open…

G: I guess overall I think there is a huge opportunity for economic growth with all the technology advancement. I think that is something that more Americans need to take advantage of and entrepreneurs need to take advantage of. All that advancement of technology and all the opportunities that we have in this day and age to grow economically from the advancements.

I: Yeah, that is a really good point. I have just a couple more questions. One of the things that has happened here at the university is that they have done some modeling of what might happen in this area if climate were to change. Basically, you said you moved here in 2008, so basically what the model suggests is similar to the summer – I was going to say the summer of 2007 but that was before you got here and I don't know what it was like in Portland that summer – but it would basically be hotter, more fires in the summer so smokier, lower stream flows, and if you are a fisherman maybe less fishing opportunities, and then in the winter less snow and probably more rain. I am wondering, if it were going to be like that here, would that impact your quality of life here or your decision to live here or stay here or would that really not be much of an impact?

G: I guess I'm not too worried about things getting warmer here. It is pretty cold right now.

I: Yeah, it is a great time to ask that question!

G: I like to do a lot of hiking along streams and stuff in like in the fall and spring and tubing down the river. I guess it depends on how significant of a change you are talking about. If it is relatively minor and the stream flows have only dropped by a few inches and it has just warmed up a few degrees, it probably is not going to affect me a whole lot.

N6.20 Tony

I: So I am wondering first of all what are your thoughts about climate change?

T: Well, I am kind of split on it, to be honest with you. I look at the national events with volcanoes, and forest fires, and everything going on and we can't even touch the kind of things -- the particulates -- that are put into the air with our energy use compared to what Mother Nature does on her own. So, I don't know if I buy all that. On the other hand, you wonder how can we not when we are doing all of this? So, I don't buy in to either end of the argument quite frankly that we are causing it on the one end and that we are not doing anything on the other. I guess I fall somewhere in the middle on that.

I: That makes a lot of sense. Would you say it is something you are concerned about that climate might change or is changing or that it is not so much a worry?

T: I think the climate is always changing and has always been changing. I think the main premise of your question is whether or not it is human caused. I don't know if we can influence it quite frankly. I almost believe it is bigger than we are. But, when you look at all the different stages that the earth has gone through over the thousands of years and we know that it has been changing forever and it is probably going to change. Definitely right now I think it is warmer, we don't have the crazy winters we used to have and so I don't know if that is just climate change,

global warming, you know whatever; but I kind of lean just to climate change and that it always is changing.

I: Yeah. You know, that is very helpful because the voice of people who are unsure about human-caused climate change is missing in a large respect in the discussion on climate change. So, I think it is very helpful to me to hear your perspective that you are kind of in between. You are not so sure about human-caused climate change. I think that voice is missing a lot in the debate.

T: Well, good.

I: Do you feel like climate change is happening now? What do you think will happen? What do you expect is going to happen in terms of climate change? Do you think it is something you will see in your lifetime that will impact you personally or is it further out? How do you kind of see the future unfolding?

T: I think that we will definitely see these kinds of events because we already can, you know, in that I am also an avid skier and so you have all these huge resorts in Europe and that the base of them – and some of them are ridiculously low some of them, might be 3800' or something and they aren't getting snow any more. You see the exposed ski area just south of Lolo that I don't think they could open last year, even if the ski area had been approved, I don't think they would have had enough snow to open. It just wasn't there. And so I think again in that respect where we are already seeing a change in places that historically had more snow are not getting it. We are seeing glaciers melting and in Glacier and it has been melting forever, ever since they no longer were being formed, they started melting but of course the pace has increased dramatically. You see the same thing with an ice cube. You set it on the counter and it doesn't seem to melt much then as it gets smaller, it melts more rapidly because the surface area is able to be warmed. So that is a natural occurrence in my opinion. But, I think we are seeing a change already.

I: Yea, that makes a lot of sense. What do you think, if anything, we should do about climate change?

T: Well, shoot, I don't know. I guess maybe that is why we kind of operate the household – other than our vehicles because we all drive wherever we go. But, as far as the house and keeping it running, I guess, you don't want to change your lifestyle but you don't want to waste anything and –perhaps-- impact anything, you know, just because you don't know for sure. I don't know what we should do. I don't think it is worth changing our lifestyle and sit around in a freezing cold house and not going somewhere because we don't want to waste energy or burn a fuel to get there. But, I guess that is a great question and I haven't thought enough about.

I: Sure. That is a very fair answer. Would you say, in terms of making efforts on climate change, that individual people like you and me, or do you think government, or do you think businesses should be taking more of the action?

T: Well, I don't know if we should <u>or could</u> do anything about climate change. I don't know if that is even feasible. But, like I said before because we don't know, I also don't think that we should waste anything. Do I think it should be the government that does it? No. Not a chance because I don't think the government does anything well. I think ***<u>if</u>*** it was a proven fact that it was fossil fuels and etc., that were causing it, then the obvious solution is to raise the price on gas and then all of a sudden there are a lot of options that become viable because we have more natural gas in this country than we know what to do with and it burns cleaner. We just have to get the right way to dispense it to customers which is the big issue. We already have the vehicles that can run on it.

We just need to have a way to get it out to the customers like we do with regular gasoline. So, the price thing works. If it becomes so expensive that there is a market for it, then all of a sudden it becomes feasible for someone to develop it and they will.

I: Absolutely. That makes a lot of sense. Do you think your political views influence your thoughts about climate change at all?

T: Umm, [long pause] I don't know. Probably not. I think that I am independent enough that I can have my own thoughts on that as well. So, I would say no.

I: Sure, absolutely. How would you describe your political views, not necessarily political party but just kind of where would you place yourself in terms of political views?

T: I am conservative.

I: So my next energy issue that I was interested in is energy security or energy independence as a lot of people call it. I am wondering what do you think about that issue?

T: What was the first part, was it energy security, was that how you worded it?

I: Yeah. Some people call it energy security or energy independence, basically just like being free from foreign sources of energy?

T: Okay. I really think that is two questions. As far as the energy security, that has never even crossed my mind. I feel secure that we will always have enough energy. As far as being independent, with our current usage, I don't think we ever will. I mean it just doesn't make sense. You know, when you can get it overseas for what we can get it for now why wouldn't you? And if it became more expense to get it from overseas, then we have the next natural resource right here – natural gas – and that will be developed. We have the technology already. So, it doesn't concern me; it doesn't bother me. I guess if it ever did happen, it would bum me out. You know gas prices are going to go up for a bit until they get the options working. So on the security end of it I have no worries because I am secure that we will always have the fuel that we need. On the independence end of it, it doesn't worry my either. But, I know that when we finally cross that bridge, it is going to cost us some coin [laughs].

I: That is a really good explanation. I actually have not had someone break it down like that. I like that. Would you say that you think at all about climate change or energy independence or energy security – any of those three things – when you are making your own personal decisions about transportation or energy, or not so much?

T: It is probably in the background but it is not a primary thought by any means. The function is always the primary and that's gonna be the comfort of the vehicle. We had a vehicle that got tremendous gas mileage. At the same time I had a newer full-sized Buick and I had a Toyota Scion that got great gas mileage. But where we live and we are always on the highway at highway speeds, the difference between a full-sized Buick and a Toyota Scion is minimal. It is in-town driving where you get the big difference. And so it was uncomfortable, and noisy, little crappy car – I mean a great little car – but it wasn't the comfort. So I sold that and that is why we have the Cadillac because on the highway it gets tremendous gas mileage. It is just ridiculous what a big car gets; it is just in town where it does so bad. So, I guess it all plays a part in every decision. But, in our case, it came down to what did we want to drive. We didn't want a noisy little car. We wanted a big, quiet, comfortable car [laughs].

I: Absolute. That makes a lot of sense. So I just have a few more questions. When I started doing this interview process, I used to ask people about the summer of 2007 which was the last really hot and smoky summer we had. But, now I…

T: Now you can throw this one in!

I: But now I can just ask about this summer. So, when people look forward to the future and what climate change might look like, they used to point to the summer of 2007 around here and I guess they could just point to this late summer around here now.

T: Last summer wasn't as hot, it was just smoky.

I: It was just smoky, right. So the predictions are for a lot of hot weather in the summer, a lot of smoke and fires, and closures relating to fires like not being about to have your campfires or maybe not being able to hike where you want to hike, and then maybe not having as much stream flows so there might be fishing closures, then you mentioned you are a skier, so the predictions suggest that they may not be as much opportunity to ski around here. So, I am wondering, if that were what the future looked like, would it change your quality of life or how would it impact you?

T: It's huge, It would impact tremendously. It changes the quality of life altogether and this is how it impacted us this summer with all the smoke. And it is not heat; the heat has nothing to do with this other than maybe the snowpack melting faster so the stream flows are down, but everything else you can still do. You can still get out and hike. But, this year, my wife likes to go for morning walks and she didn't. Being as how we are both self-employed, we can take off in the middle of the week and so we will take off at, oh, 6:30 at night and go camping somewhere and then come home at 9:00 in the morning and go to work and we really haven't missed anything, and we just had an outing. You can't do it because, you know, it is smoky and like you said the whole reason for doing that is the ambience with the campfire and all that and you just can't do it. So it changes what you want to do tremendously in every aspect. Our motorcycle ride, we rode several hundred miles through smoke and when we got back, our clothes smelled like smoke. Once we finally got to Southern Idaho, we kind of got out of it but when we were getting into Idaho – the confluence of Montana and Idaho both border crossings we went through – it was horrid. It definitely impacts the quality of life and the recreation opportunities are diminished.

I: And if that were kind of what the future was going to look like more and more, what do you think would be your response? How do you think you would deal with that?

T: We would probably just do something else. We would not put ourselves out in this smoke and so we would either drive to get out of the smoke if it was bad enough and we would just leave the area. I even think there is a bigger question here is that is is our forest management plan completely out of whack with Mother Nature. I said before, Mother Nature is stronger than what we are. So, is the way that nature used to maintain the fires in our forests and is so much better than the way we maintain the forests now. Now when we do get a fire, it is just crazy whereas back in the days when they would burn periodically, you never had thousands and thousands of acres ready to go at once. You know, you had smaller areas or even back to a different management of the forest on the human end. Maybe we need to go back in and start doing some selective thinning and start harvesting this commodity. But, then again, if there is no place to take it to market, what good does cutting them down do you? You know what I am saying? There are no mills around here anymore anyway. So, I could talk back and forth on both sides of the issue

for quite some time; but, in the long run, I don't know if we could impact it enough to make any difference anyway.

N6.21 Ben

I: Cool. So one of the things that comes up, one of the issues that comes up a lot when you talk about energy or transportation is climate change, and I'm wondering kind of what are your thoughts on that whole thing.

B: Well, I like to think that climate change is happening. That's kind of why I like -- I say I should be better at doing some of this type of stuff, like not being so liberal with my energy usage and stuff, and we're trying. It's like I know one thing that we're doing back at home is that since my brother owns this biodiesel business, we're trying to use a higher percentage of biodiesel because it's less greenhouse gases and it burns cleaner and all that stuff. Trying not to drive around just for the sake of driving around, but sometimes you need to do that. Like a – I shouldn't be the one to talk because, you know, being a farmer like everything we do burns fossil fuel and so like I don't know if I'm the best person to talk to, but we're trying.

I: It's interesting. Everyone is the right person to talk to for me. Everyone's perspective is interesting. So would you say you think that the climate is changing or no, where would you fall in that?

B: Well, I like to think that it is but I can't – I can't really see it on the local level except for it being maybe the winters being abnormally cold like they were this year, or else maybe being more – I know we got a lot more snowfall and it was very, very cold for a very long time this year. It hasn't been like that in the past. We've always had a couple of days, maybe a week, where it's really, really cold but I think this winter we had like a month where it was below zero.

I: Wow. Here or at – you mean –

B: At home.

I: -- in Rudyard? Wow, that's really cold.

B: I know Missoula got way more snow than it usually does this year, so they're worried about floods in the rivers and all that stuff when it starts melting.

I: Right. So would you say it's – climate change is something that you're concerned about or not concerned about or where would you kind of put yourself on that scale?

B: I'd say I'm concerned about it because I'm aware of some of the stuff – I don't know how to put this without sounding – I don't want to sound like I'm informed when I'm not –

I: That's okay. Whatever your opinion is, it's perfectly good.

B: Because I know, like, the – for example, the parts per million carbon that's in the air right now is a way heightened level than what it used to be and I know that there's – there's people that are actively trying to reduce the amount of carbon that goes into the air every year and like we're trying to do some of that stuff where we live too, like there's a big

push towards people to start using carbon capture sequestration technology in their farming outfits and stuff. So you see a lot of people doing that now actually, and I think that's the right way to go. If you can do it, why not? Right now, unless something changes in the legislature, they're actually – the government is actually offering incentives for people to start doing that and incentives for people to burn biodiesel. Right now I'd say I'm concerned about climate change just because they're offering us money to be concerned about climate change.

I: That's interesting. I didn't know about those things. And would you say, what do you think, if anything, is going to change? What's going to happen like what do you think the impacts will be and kind of when do you think we might be seeing things change?

B: Like in terms of climate wise?

I: What do you think might happen?

B: Well, that's hard to tell. I don't – I don't really know how much change that we'll see maybe in the next 5 or 10 years, but we may start to see things 20 to 30 years down the road, maybe. I don't know. Maybe like – just because everything fluctuates so much, like the first winter that I was down here was really, really mild winter and then this year it's abnormally cold and abnormal snowfall. So maybe we're already starting to see changes. I don't know if that's just a one year type deal or not. But I think that the way it's been going is just that each of the seasons, if we see change, the seasons will be more extreme, is what I'm thinking, just because of the way it's been going, like the summer was really, really hot and – I noticed this year we had a problem with rain a lot in the summertime when it usually shouldn't rain. When it didn't rain, it was hot, and the winter was cold.

I: Yeah. That's interesting. Where would you say you get information about climate change? How do you know what you know, kind of thing?

B: [long pause, lot's of thinking about how to answer this] Well, I've gotten some of it definitely from some of the classes that I've taken here on campus, so I would consider that maybe more credible source than – but I've also gotten information from the newspapers and some of it from – some of it from just TV news and all that stuff. But I try to also take that with a grain of salt because everything is slanted one way or another so. Where else? I want to say that most of my information on climate change actually has come from here, from the classes that I've taken at the University that deals with it.

I: Yeah, sure. So I'm wondering if you think we should be doing – anything about climate change, and if so, what do you think we should be doing?

B: I just think we – I think that people should be conscious of, that we are putting – every time we use a fossil fuel, we're putting more CO2 in the air and that's definitely doing something. Like I said, if there's a way -- if there's a way that you can maybe instead of putting it into the air put it into the ground, or maybe burn something different than a fossil fuel that puts less carbon into the air, why not do it? Because right now – right now it doesn't seem like anybody's trying to say – it doesn't seem like anybody's trying to say, well, this could be a problem but it's not right now so let's just not worry about it. When this could be a problem, so let's actively try to do something to relieve the side effects of it in the future because, like, I honestly think that if there was a way, if there

was an alternative where I wouldn't have to burn any more petroleum, I would totally do it. I'm comfortable with never filling up on gasoline ever again if it could happen tomorrow.

I: Cool. So what would you say – how would you kind of divide up responsibility between government – should government be doing stuff? Should businesses be doing stuff? Should individuals be changing their behavior? Kind of who do you think should be taking the lead and trying to move things on this issue?

B: Personally I think the businesses should be taking the lead, just because the industry – when everybody talks about – everybody talks about government being too intrusive and not having to – not being able to regulate businesses as much as they because it harms free enterprise is really, well, yeah, we already tried that and when we didn't have any government restrictions on you, you basically just turned – you basically just um – I don't want to say – [long pause] I don't want to sound crash [think he meant rash?] here but when governments don't regulate businesses enough, then the theory of corporate social responsibility and corporate environmental responsibility just sort of goes out the window because they say, well, if they're really not telling us what to do, we really don't have to do anything that benefits anybody else. And I feel like if they would just do that just because, then that might change some peoples' opinions, because right now the only thing I see is, well, you tell us like businesses only do what they have to to meet certain restrictions and otherwise they just do whatever is easiest.

I: Sure. And what do you think about individuals; do you think individuals could have an impact in changing their behavior or not so much?

B: Uh-huh, absolutely. Absolutely. There's a lot of things that people – like, people could just do like even in terms of, I know that like my roommate – my roommate drives to the park and ride every day and rides the bus from there instead of getting picked up at the house because I don't think that his – I don't think that he's on the right schedule so in order to get to class on time, he'd have to take a much earlier bus. So maybe if he just took the much earlier bus one day instead of driving down to the park and ride to catch the late bus, that could help.

I: Sure. That's a good point. I'm wondering if you think your political views influence your thoughts about climate change at all.

B: Yeah, I would say that my political views do, especially in this new legislature that just took over in the state, because I've always considered myself a pretty moderate and this new resolution that they just passed in the house saying that climate change is not beneficial to Montana's economic conditions or – I can't remember the exact literature that they put it in – but basically said we don't have to agree with what the EPA says about climate change and global warming because it's not good for Montana business so we're just going to nullify it.

I: Wow, interesting. I didn't know about this.

B: I don't necessarily agree with that because, again, that's not helping – that's not helping our – the green businesses get any traction, like my brother's biodiesel business, because that just says, oh, we can go back to the old way of burning fossil fuels and not abiding by EPA restrictions, so we don't have to – we don't have to give any more funding to the

green businesses or give any incentives to people that actively trying to reduce their carbon footprint or anything like that.

I: Sure, that's a good point. I don't know about that. How would you describe your political views? You mentioned being kind of moderate – how would you –

B: Fairly moderate, either – it's somewhere in the middle. I don't affiliate with one party but I usually like either a – like a very conservative Democrat or maybe a moderate Republican. Whoever is level-headed enough to know that you can't be a hard-liner to either side. The extreme right is just as crazy as the extreme left, and that's the way it always has been. I feel like there's a big push to move people away from the center and get them on opposition and that's – I don't think that we'll ever get anything done if nobody is going to be able to be in the middle of the road.

I: Yeah, that's a good point. Very good point. I'm wondering if you think about climate change at all when you make decisions about energy or transportation. It's perfectly fine if you don't, I'm just wondering if that ever plays a role.

B: Yeah. I usually try not to think about it during the summer when I'm operating all the heavy machinery.

I: You work on the farm in the summers?

B: Yeah. So, yeah – we're – if we're not using – if we're not using tractors, we're using trucks and if we're not using trucks, we're using combines or any combination of the 2. It's just – we burn a lot of diesel fuel.

I: Yeah, sure.

B: Usually, especially when we're down here, I try to make more energy conscious decisions just because I guess you, here, as opposed to home, I have the option to. Whereas, home, if I've got to go somewhere, I got to drive.

I: Yeah. Sure.

B: And if we're doing work, we're going to be burning diesel fuel. That's just the way it is.

I: Yeah. Absolutely. That's a good point. Another issue that comes up a lot with energy is like energy security or energy independence, like being free from foreign oil. I'm wondering what your thoughts are on that issue.

B: I'd love to be free from foreign oil [very emphatic]. I'd love to be free from petroleum in general [very emphatic]. I'd love to – I realize that maybe bio-fuels aren't the end all, be all, but since I have a close personal attachment to that, that's the way I'm leaning right now. I don't understand why people are so resistant to it. It kind of seems like anybody that tells you that biodiesel and ethanol are a bad idea, they don't have an alternative. They just say, these are a bad idea so let's just keep burning fossil fuels. I'm not necessarily sure that that's the best way to look at it. I'd like to see – I'd like to see hydrogen fuel cells work, I'd like to see electric cars work, I'd like to see it all work because I just – I have a problem with being told that we have to burn fossil fuels and this

is the price we have to pay for it because of some other country halfway around the world.

I: Yeah. Sure. That's interesting. So one of the things we know – well, we know something about what might happen here in Missoula if climate change is a lot, probably because we have people running models and all that sort of stuff because it's the University. I don't know as well what is predicted to happen in your area, but around here they think it's much drier in the summer and more forest fires and lower stream flows and then less snow in the winter and probably more rain in the winter, and I'm wondering kind of how that would impact you if those things were to come – if that was kind of the new normal around here or in your – where you're from, if that would affect you quality of life or your –

R: I'd hate to see more forest fires in the summer. I've been around this town when there's forest fires close and it sucks. It's terrible living here. Rain in the wintertime really doesn't make me feel better either, because rain in the wintertime freezes and then you just have a terrible time getting around and it just makes life harder.

I: Yeah. Totally. Do you think it would impact like where you would choose to live or – how would you respond, do you feel like?

B: Like choose to live around town or even if I lived in Missoula, period?

I: Yeah, exactly, if you would still want to live here or still even want to live in the state if that's what it was going to be like?

B: I think I'd still want to live, especially in Missoula because I love this town. It's just a great town to live in, I think, and not just because of the scenery but because of the people. The scenery is big, though. One thing that's nice about this town is that the winters are usually pretty mild, like this year was kind of an anomaly. But back at home, no, I'd definitely choose to live somewhere else. My parents have already started wintering in Arizona just because they can't take the cold anymore. I think if I was going to live in Montana somewhere, this would be – Missoula would be a place where I'd still want to live even though, if the climate change. Other than that, I think I'd definitely want to live somewhere where the sun shines more days during the winter.

Nomethetic Quote Table 7 – Social influences

N7.1 Emily

How do you interact with your friends and family on issues of energy and transportation? Does it come up a lot in conversation?

E: I think it comes up some, yeah not always, it comes up not in every single conversation but I think people that are also – yeah, I think there's a lot of people that – there's a certain friends and stuff where it does come up. I think there's also certain friends, and especially neighbors, who aren't maybe as passionate about the issue and then it doesn't come up as often, like my neighbor that does have a hot tub, I haven't – I use it sometimes instead of giving her a hard time about it because she's just my neighbor. There's only so far you can go. I think in some ways we try to be an example to our kid and if other

people notice and that has a good impact, great; but I can't tell other people what to do. You can only offer suggestions. So it really depends on the people, how much they end up talking about this stuff.

I: And would you say your friends and family are generally similar or all over the board?

E: Most of them but it's – most of them, my immediate family, you know, my sisters and stuff are, you know, none of them have a Hummer or anything like that, but it's not – I'm trying to get my mom to trade their truck in for a Prius. We're making inroads. Maybe – I'm probably the most extreme. Our family lives the most – we consider the sustainability issues more than most of my family and a lot of my friends – I think for a lot of different friends, they look a little more carefully because they need to but maybe that's just the orientation around the costs. Yeah, they might drive something that's not as environmentally friendly because they can't afford to but then they also might not want to prioritize that and not take vacations.

N7.2 Crystal

I: I don't know if my parents would talk about climate change, they definitely have an issue with that. My husband is off the wall with climate change.

…

C: um, I'm kind of in the mix of it. Um you know I think the climate's always been changing but I also think that you know more people, more blacktop, more vehicles, I definitely think that's its having an impact on it. But like I said I'm kind of on the fence with it because I think with evolution and just things changing. I think it was going to change anyway. But I just think how can people not be impacting what's going on I the world. There's more and more people and more and more cars and more companies and factories and all of that stuff. So it's hard for us because I think we take it for granted with the family and driving around and what we have to do to get around. I don't know I think I'd be less vehicle if I didn't have the family. I mean definitely. I mean partly for the environment but partly to be selfish and not have to spend money on it. The amount of money I could save for oil changes and gas and all that, and plus I'd be helping the environment too. We recycle cans for sure. My dad drinks beer and he brings it and calls it my kids college fund. But all of his friends and everybody brings it to us. Because again our friends think it's silly to recycle because you don't get that much for it. But we recycle all our cans and anything we can do, we help with that like recycling.

…

C: The news and the web I mean I'll look at some of the stuff and do the pros, the believers and non-believers, and again that's where I think I'm an independent because you have to read some of that and have your personal interests with it to. You know one of the students said 'oh you're one of those people' because I was not 100% behind it. And I'm like well I don't know look at the Ice Age and this was Lake Missoula before. I just think that some of it is just natural. But I definitely think that we're a part of ti too. I just don't think it's 100% people. But she was like you're one of those people' and I was like well I guess but I'm not saying that it's not real. And I definitely think that we can stop it, well I don't know stop it. But lessen it. But I just don't know how much the American people are willing to do it. Like I said I think there lazy with it. It's easier to get a big rig if you want to you know. I just think that slowly we have to try to educate people and the green and the bottled water. When we camp we recycle and have one bottle a big jug for indoor cooking and then we have the big blue jug for dog water and different water and we just recycle that water. And we use the crick water if we want to bath and that kind of stuff and putting fire out. And a lot of the people we camp with get bottled water. Just because it's easy. So I don't know.

N7.3 Amy

A: Yeah, yeah that's really interesting. So, how do you interact with your friends of family on energy issues? Does it come up in conversation a lot or?

I: no, not a lot. My family doesn't understand. They think I'm crazy (laughs) they really do. Like I said I was born a pure bred city girl.
A: I can see this is really different.
I: It's really different. And they don't understand it and they ask a lot of questions and I try to answer them. But they just don't get it. They think um that I don't know what they think really. I guess I should ask them that. Why do you think I'm crazy? (Laughs). I don't know I guess they just don't understand why I would want to work so hard to create a life for myself.
A: yeah
I: yeah, I guess it's just a different way of thinking. Yeah. But yeah they have lots and lots of questions. When I first moved in there I thought oh my gosh my food processor. I can't live without my food processor. But then I found a manual one, that has a hand crank. And it takes a little bit longer, but it works beautifully. And they were just like really what does it look like. I had to describe what this thing looks like in detail. It was just funny. But um yeah, I think they are just stunned because of the way I was raised. They know how I was raised and that I would make such a turn around so suddenly just kind of flabbergasted them. We don't really talk energy. They were interested in the solar. They don't know how it works. But neither do I. I just know that the sun's rays get turned into electricity somewhere along the line, which is fine. But, yeah, they think it's interesting and they think I'm nuts and we still love each other.

N7.4 Sonya
I: Yeah, sure. How would you say you interact friends or family on the issues of energy, or the environment or transportation. Do you talk a lot about your house, or your Prius, does it come up a lot in conversation?

S: well we, like everybody else, have surrounded ourselves with like minded people. So, it comes up in conversations but its more just a given. And then if we were talking to , well there are family members who are conservative and don't believe in global warming or don't care and then we just don't alk about it.

N7.5 David
I: like the kind of thing you think about a lot and talk about with friends? Yeah it seems like it you have a very cool thing to talk about with your house. So does it come up a lot in conversations that you would talk about your house or?
D: um, I would say yes. People have this idea of the strawbale house as really unique. It's really just a way of building a wall system, not the defining characterisitic of the house, it does not seem that way to us not to us. But it is a curiosity. We used to be featured on the green homes tour…
I: oh yeah
D: it's usually in the spring, we haven't done it in a few year. But anyway, yeah, a lot of people come here with the idea that this is a really different sort of house and ask a lot of questions.
I: and how about the Prius, do people ask you about that a lot? Do you end up talking about having a hybrid.
D: Yeah. A little bit. You know American's always want to talk about cars
I: (laughing) yeah.
D: And someone asked us yesterday 'hey how do you like the Prius? Thinking about getting one'
I: so people ask you for advice?
D: yeah sure.
I: because it is a kind of different thing to get, there's no key, and everything. It's nice to talk to someone if you're unsure.
D: yeah, people want to know do the batteries last. Does the hybrid system work as it's expected to.
I: ok, great. And would you say that your friends and family have a similar approach to the home energy efficiency stuff you've done or are you pretty unique on that?

D: friends yes, family somewhat but less so.
I: do you have other friends who have this kind of house?
D: Um, we have friends who built a house in the last couple years, the construction is more standardized. But they do have super insulation put a fair amount of effort into making the place tight and have solar panels on the roof. So yeah, I lost track of the question.
I: so do you feel like you've encouraged people to think about this other kind of construction or they were already kind of into it?
D: Yeah, I'd say we encouraged but most of our friends were fairly like minded. So it's not like we're converting anyone.
I: Yeah, but it's always nice to talk to someone.
D: and have someone do some of the experimentation for you.

N7.6 Gary

I: Oh, that's very interesting. You've mentioned interacting with people on your street at least, I'm wondering kind of in a larger sense, how do you interact with your friends and your family on the issue of energy and transportation? Do the choices that you've made come up in conversation? Or how would you say that those interactions happen?

G: I encourage my kids to ride bike and take transit systems. My neighbors are my neighbors. We all respect each other for our differences, I guess. My neighbor over the (indicating) is a landscaper and he uses herbs – he uses fertilizer and herbicides. The guy right across the street doesn't want herbicide anywhere near him or his dog so he's got a natural xeric garden. The guy on the corner doesn't care either way. The guy on this corner (indicating) doesn't care either way. I've got a wild yard, I never mow it, I just like wild native grasses. So we all just kind of have different approaches in the neighborhood. I've been finding more and more people comment on my wild grasses and they like them. It's kind of an acquired taste, Ali, because if you're used to mowed, you want it mowed. And everything else looks disheveled, kind of poopy, you know, random and chaotic. I think by having decent examples of that around, it kind of creeps in a little more, people go, you know that's not so bad. You know, instead of perfectly sculpted wild grasses, you know, I just let them all grow.

I: And do you feel like you talk a lot with your friends and family about the things you do or –

G: Oh, yeah. Yeah. And then I try to do things, you know, by example too where I can.

I: Yeah. And do you feel like you often start conversations with people or you mentioned people look at your truck or look at your yard, do people come to you for information?

G: Yeah, people come to me for that, yeah, for my truck, because I'm driving around. People know what I do in the community because of my business so I'm already kind of preattracting those sort of people but they're not knocking my door down, though, Ali. Kind of interesting. Missoula loves to talk the talk but walking the talk is a little bit different deal. I find that kind of interesting. Helena – I have a lot of friends in Helena and Helena – I've got a lot of design and consulting projects over there because there's not too many people in Helena that are teaching or consulting or doing this kind of thing for housing. I'm not doing transportation over there but I do housing over there. I'm not the builder over there; I just show them what to do. And it's a pretty good market over there. And, of course, I'm not as busy as I'd like to be in Missoula but we're steady, we've got stuff coming. It's a recession. I'm one of the few guys left standing, actually.

N7.7 Indigo

I: That's great. I'm wondering how you interact with friends and family on the issues of energy and transportation, does it come up a lot in conversation? I guess there's maybe the world of where you live and then there's, you know, your eco community and there's also other people – do you feel like you are talking about issues related to energy and transportation –

R: My friends – yeah, those things are common. I mean, it's like you sort of have friends that are like you in a lot of ways, have the value systems. My family, especially East Coast contingent and my brother in Seattle too, are pretty unaware of a lot of this stuff. Though my sister surprises several times and she's been the spokesperson for Women's Voices for the earth a couple of times and, you know, I've sort of drawn her in and going back to the old days when we were raising our kids and stuff and had – I started natural food store stuff, you know, I just started a much more natural diet. So she started getting into that a little bit. Her husband still laughs but he doesn't laugh as much as he used to. There's something to it to being efficient, and the earth isn't unlimited in terms of how much it can feed us. We do need to have – it needs to be part of a cycle, not just take, take, take. People are understanding that. So the conversation has come around. If they ask, I talk about it. If they don't, I don't, you know, unless there's something really outrageously horrible going on that could be stopped that instant and I might raise the issue.

N7.8 Andrea

I: Sure. You mentioned friends and family, I'm wondering how do you interact in general with friends and family on the issues of energy use and transportation; does it come up in conversations or kind of how would you say those interactions go?

A: A lot – the transportation definitely comes up in conversation, again, because of work. It's funny because sometimes you try not to influence your friends and family but then again its who and what I am and what I do and so it happens a lot. I don't know, maybe I've made an impact on them and maybe I haven't but I mean that's part of, again, what I do as a job as well as what I do as an individual.

I: Yep. Sure. And do you feel like – is your family similar in their approach to –

A: My extended family?

I: Yeah, or your friends or do you feel like –

A: I would say a lot of them are. Even going, like, to my neighborhood, there's a lot of single-car families, a lot of them, again, like our neighborhood, because of its close proximity to the bus and things like that, so I would say we're surrounded with people that do similar things to us.

N7.9 Maya

M: I've always been conscious of my energy use. And I think people in the – of my age, parents grew up in the recession – more than a recession – what was it?

I: In the depression?

M: In the depression. Excuse me. I just couldn't come up with the word. In the depression, so they were very reuse conscious and so we grew up with reuse consciousness. And then kind of, our parents tried – I mean, in my mind, my mom kind of moved into this thing, and I think it was kind of the television – the Tupperware view and we're going to have all – everything, and we're going to open everything out of a can, you know, kind of the – we want to be modern women, whatever, so we really learned our reuse, I think, people in the '60s as we were coming of age in the '60s, learned our reuse philosophies from our grandparents who were really a big reuse age. I don't know. And then I think it's kind of gone away again.

I: Yeah.

M: I think students this year – I really noticed, I work at orientations a lot, and this – for the last probably six years, it's been really good, students have been really energy conscious, they were all very – paid attention to transportation, really energy conscious, and this year I noticed an odd step away from that again. And my thought is that maybe they're being over drilled with it in school as they're growing up to the point where they just don't care. It's like they have hopelessness – sense of hopelessness about it so they'll just do what they want to do.

…

I: And how do those conversations go in general would you say? If there is a typical --

M: Yeah, is there a typical conversation? I don't know that there is. It's – I would say even my relatives all want the dream of an open road and to be able to get into their car and go wherever they want to go and they have no concept beyond what I've tried to teach them that there is a different way to – Helena, there's no transit in Helena. There's hills so biking is the pits and, you know, so driving for them is the only – they think – the only option. Yeah, not always. It's really hard. It's really hard – and another thing that I think is really interesting and I just heard it again, I was at a party and I was talking to a very elderly guy, he was 90 something, and he was talking about his lawn and, well, the one thing I have people come and do and that's put the – fertilize my lawn. I don't have one weed in my lawn. And I'm like, wow, it's really – that's what my dad would have said too. They were the chemical age. They wanted the perfect green lawn and none of that in their minds caused any problems. I don't think I know anybody in my group of friends that puts chemicals on their yard. I don't think I know anybody.

I: Do you think it's generational or just more different value sets of your friends versus –

M: Oh, I think it's more value sets. In Helena, you put chemicals on your yard because everybody has the perfect green, no weed yard. And then Missoula, most people are more – well, maybe most people that I know – I shouldn't say that because if you go – I just toured kind of the Grant Creek area and west of Reserve Street, because I was running for City Council so I was looking at the rest of Ward 2, I was like, woah, this is a different world. But the north side, west side, I don't think most people, that isn't an issue for most people, the perfect green lawn.

I: Yeah, well, I agree with you. How would you say you learned about energy efficiency or transportation, how do you know about all these things?

M: You know, a lot of it came – well, I would say in my generation, a lot of it we were talking about in school, in science classes talking about – the big thing at the time was the

population bomb and the – that was kind of your – my generation is like we can't feed all these people, we can't house all these people, we can't – so that was more what – where I got started. I don't know, it just always made sense to me.

N7.10 Glen

I: That's good. That's a really good point. How did you get started with saving energy or being interested in, you know, greener transportation, that kind of thing?

G: Yeah. A lot of it started in – well, a lot of it started in West Virginia. When I went to college, I started out as an environmental protection major, that's not what I ended up getting a degree in but – I think I was attracted to those things. When I was in high school, I was an exchange student to Australia, and they had a much more advanced, I feel like, kind of green conscious, if you will, and I was exposed to that, and that was something I held on to and then just kind of further explored it, and it just grew as I got back and then kind of – there was a little dip in college just because I was partying hard, to be honest with you -- I went to just a giant state school and so, you know, it is what it is. And then when I moved to California, again, there's a very elevated, at least from where I moved from, kind of green conscious. And that's the sector I was working into and so I was surrounded by it personally and professionally. And because I already was a – I had open arms to it, it felt like I fit it, and so that's where a lot of that sort of green ethic and energy efficiency stuff progressed rapidly there. And then Missoula has that same vibe – not same – similar. Again, we moved here, I mentioned, because of – we thought it was a progressive community and we were seeking that out and so, again, I feel like a lot of the nonprofits and services and things that you hear about that make Missoula amazing and unique all somehow you can relate back to energy efficiency and energy savings. So it just keeps getting perpetuated by all of that, by this community.

I: That was actually going to be my next question is kind of what keeps you going on, you know, the – because there can be inconveniences and being energy efficient and transportation efficient, how do you kind of keep motivated to be doing it?

G: How do I keep motivated? You know, one, it makes me feel good. I guess that's a selfish thing. Two, I keep motivated by – again, I feel like I am helping to, like, improve the world. Again, I think that goes right with that comment I said before, that makes me feel good. I think it helps in Missoula that those kinds of things are fun, like, you know, if you go volunteer at Garden City Harvest or if you participate in like Sunday Streets Missoula, it just is fun, so that keeps you going. There's a large community of other people doing it so you can kind of do it together. I mean, another thing, and this is a little bit more heavy, but it's something that I want my kids to have that ethic and so as part of just like a parenting goal, that also keeps me going. So those are probably all the things.

…

I: I'm wondering if you interact with friends and family on energy or transportation issues, and if so, kind of how those conversations go?

G: Yeah. Obviously, again, in my home, with just my wife and my kids, you know, we talk about it all the time, like I have already said, just water conservation, turning lights off. Is it warm enough to hang the laundry out? Can we – should we walk to this dinner party? Let's ride to the farmer's market or, you know – that's how we interact. That's mostly like a just pylon, an all good thing, you know, it's not really discussion, we just try to identify ways where we can. With my other family, you know, it's a little bit different in that they don't necessarily share those same ethics, and it's not like it's 180

degrees against but they think some of the things we do are a little bit crazy. And so, you know, I'll get grief from my mom or whatever for like biking with the boys in the bike trailer, she sees it sometimes as unsafe. And you could view it that way. I can see that. So we have discussions about like why I choose to do that and what I do to take safety precautions and you can also have accidents in the vehicle, you know, blah, blah, blah. So those interactions are a little bit different in that for my other family who lives away, you know, they see us as sort of like being these kind of eco Nazis, taking risks that we don't need to, and maybe over thinking things a little bit and kind of being stressed out about it. And so I guess we're kind of like the – when they hear anything about the environment or green or whatever, they think of us and they'll like call and be like we heard this, you know, so I kind of like that, because I feel like slowly, you know, because they're not wholly against it and think it's like an evil thing, it's my chance to let them know why we do it and I'm never going to make anyone's decision for them, but maybe if over time, I make enough sane arguments, they might try it themselves, if that makes any sense.

I: Sure.

G: That's kind of how we interact.

I: Terrific. How did you learn about all the things that you do? How do you feel like you got that information and got started?

G: I feel like there have been several different progressions but, you know, in the beginning, I think it was just the crowd I was with, it was something that I was always attracted to, obviously, or I don't think I would have gone down that path but, again, in Australia, my host parents were really tuned into it and that kind of fed the fire for a while and then again in California. That was both friends and my community but also work was directly involved in restoration, not necessarily energy per se but I trace a lot of that back to energy as well. I feel like when you're working with native plants, you know, has like a target or a specific thing, you know, that group was just educated in many different realms too, so you just kind of – yeah. So, anyway, I guess socially is what I'm trying to say.

I: That's great.

G: And then my work here in Missoula just increased that as well. I worked for the Montana Conservation Corps. My first job here was at the Good Food Store, I was just a cashier, but, again, I chose to have a job that I could feel good about, like local food, organic food, and all that again goes back to energy as well as being healthy. And then I was trail crew leader for the Montana Conservation Corps, and so kind of another realm of this maybe umbrella of sustainability that we're kind of getting at and then I was the field coordinator for the Montana Conservation Corps, and so that took it just from like digging trail to also all of a sudden, you know, a huge component – they were 2 kind of main things that we tried to get across with our Montana Conservation Corps program, and that was like technical skills aka building trails and restoring plant communities and things like that but also becoming a leader and having a curriculum based around all of these things that we're talking about and so that moved it into a whole other realm and then my next job was with Missoula In Motion, and I'm sure you're familiar with what they do. And now I'm the energy efficiency grants administrator for the City of Missoula and Missoula County. So obviously that's even more directed and the learning curve on

straight up energy issues has been steep and still is. I've been at over a year now. So, yeah, both socially and work.

…

N7.11 Paul

I: Right, sure. I'm wondering, you seem like you are a very energy efficient person, you are very aware of these issues and transportation efficient and all of that. How do you feel you got started on being interested in that and being active?

P: Being involved on campus was probably one of the big ones. I did some environmental stuff in high school, towards the end of my high school career. But being a member of UM CAN has been huge. Working on a lot of different projects and over the years I've moved up in the ranks, attended conferences that involved dealing with the environment, environmental issues, and kind of connecting with people from around the state and around the country who are working on similar projects.

…

I: That's very interesting. I'm wondering if there are other things that you've done in response to climate change that we haven't talked about, just to give you kind of a more open ended. I don't know if I've asked the right questions.

P: Climate action now is huge. We've done a lot of work and we have our sustainability fee on campus which generated $160,000 for sustainability projects and I worked on that as a freshman to get established with [names friend] who was the founder. That's now called the [name of person] revolving energy loan fund that matches all that funding. He had passed away a year and a half ago. We have lots of recycling issues on campus, there's a recycling fee up for vote next Wednesday you should vote for. Transportation initiatives. I work as the board chair for ASUM transportation. We run buses, about a million dollar organization that works on bus transportation for the park and ride and is pushing very close, I think we're going to miss it just barely, to 400,000 rides per year on campus. That's about 3,000 students a day riding the bus. So we've got those. We have bike programs, and you know I've worked pretty hard on all of those issues. Through [campus organization] I've done a lot of work on trying to support clean energy on campus, the biomass plant was a great project. I think that's it one that I'm extremely skeptical of, really don't know what I think about it because the people working on it haven't been very open to student involvement and that's too bad. I think that there are a lot of demands that we had that have just kind of been left off. But I also think that's a very complex project and we haven't had the resources to really attack it properly. But we've done our best to really throw down limitations. I was part of the team that established the 20/20 carbon neutrality day last year, last January a year and a half ago, year and three months ago. We pushed really hard to get that aggressive climate action date set.

I: Is that for the University?

P: For the University, yeah. The University has a climate action plan that sets the carbon neutrality target date at 20/20 (which is like 9 years away). We're not going to make it at this rate so now we are doing everything we can to increase our rate of reducing our carbon footprint. But with the biomass plan we are taking a huge step in that direction for the carbon footprint. Air qualities a whole other issue and just as important.

I: Yeah, that's a good point.

P: You can't, you've got to take care of the whole system. And then, working really closely with collaborative groups, collaborating with groups from different organizations on campus. We have, all of my friends are involved in environmental organizations it feels like, and they are all on different ones. We have Students for Ecological Restoration, we have Students for the UM Wilderness Assoc., we've got Students for Real Food or their name, their trying to change their name to Just Food. I'm close with their presidents and their members. One Thousand New Gardens, UM Flat-which is a form for living with appropriate technology. The Environmental Law Group. There's all these different groups on campus that tie together and I'm doing the best that I can to try to bring us together. I think that we have individuals who create kind of a network of the different organizations for a lot of different reasons. But one reason is because we all recognize that each of our issues is equally important to actually solving the climate change environmental catastrophe that's we're all facing. And focusing on climate change along won't solve the problem. You have to focus on the food, you have to focus on the environmental justice, you've gotta focus on the carbon emissions, you've got to focus on the wilderness areas because they're the carbon sinks that protect your wildlife and biodiversity. You've got to work on every single area, and only when we've tackled each of those areas will we really have solved the problem.

N7.12 Joel

J: But, as far as making those decisions, it is hard, it is really hard. At one point, it was like "no, mom, I don't want to fly home for Thanksgiving." It is pretty cool to say that and I did want to go home but it was like I am going to try to find a ride but if I can't find a ride, then I probably should just stay here because it just doesn't make sense to fly around the country. I was probably a little more hardcore, but about a year ago, but I personally, I don't know, everyone has the ability to make decisions that affect the world around them and we constantly are kind of pushed to make decisions that are damaging I think so it is difficult to kind of break outside of that because the common trend is to fly for a vacation, do these things, fly home. It is hard, obviously, when your friends do it and your family expects it or whatever. It is just the nature of the way we live.

…

J: Yeah. I guess climate change is pretty obvious. It is going to affect the whole world. Well, I was just like well if it is going to really impact everything, then I probably better learn something about it. Which is funny, because even the members of [campus climate change organization], which is like the flagship in the climate change club, we don't know a lot about climate change. We are not experts, but it is basically kind of a cult in a way.

…

I: How do you kind of keep motivated to stay involved?

J: Well, that is a good question. I did drop out of, well I didn't drop out but, I actually haven't gone to any of the UM CAN meetings this semester and the reason for that is I am the President of the University of Montana Wilderness Association, which is an organization in partnership with the Montana Wilderness Association which is a state much bigger organization, and we work on wilderness issues throughout the state and beyond the state as well to some extent. So, I see that is connected for me personally. I know that a lot of people don't see that connection but I have dropped out of the club [UM CAN] per se, that kind of involvement, but Power Shift was motivating to some extent, being around a group of people that were psyched from around the country and I think more importantly seeing speakers like I did meet Bill McKibbon there. I was just walking along the street and my friend was like "Hey, Bill" and I turned around and "Whoa, Bill McKibbon. All right." Shake his hand.

I: Celebrity of climate change.

J: Yeah, so that was kind of cool. He was like: "Yeah, it was a good day today." So that was cool. Reading helps but sometimes not because you can only read so much about issues and stuff. I

don't know. What excites me, oh, actually, this is pretty inspiring. Wasn't it like 18,000, 12,000 people? I just read this, I should know, but it was at least 5 digits of people that surrounded D.C. saying that we don't want the Keystone XL pipeline – or not D.C. but the White House – and over 1,000 people were arrested a few months ago. And not your typical just crazy anarchists getting out there hating the world but normal people getting arrested just because they felt it was time. I think that that is pretty motivating. It is pretty inspiring. It is only going to build and whether or not it is going to build in time to really prevent bad things from happening, I don't know. But that is inspiring to see other people and being around other people – I was pretty involved in "all against the haul" stuff last semester.

…

J: It is interesting because Missoula tends to have this kind of group think. I think it is on campus and in a lot of places it is being green is becoming trendy. I don't know, I feel like I just kind of caught the tail end of when green was not cool. But, before 2000, I remember I would talk about recycling or I would ride my bike. I grew up in a town that was pretty much "Normalville, USA." It is not like Missoula. There is no local food. There is no farmer's market in my town. When I go to WalMart I see at least one person from my high school guaranteed. Even if I go back now I will see people that I recognize and, you know, it is because it is the only place to shop and that is not necessarily – that is connected to energy use but because in order to get to WalMart you have to drive 20 minutes. So it is kind of interesting. It kind of killed the small town aspect of the town but, getting back to this town that I grew up in. It is not like Missoula because it doesn't have the group think mentality that is so prevalent here. Here, I think people don't really have to question so much their beliefs because of course it is a good idea to ride your bike. For the most part, at least a lot of the people that I associate with and that could just be a result of being the college of forestry and conservation and being involved in student groups and stuff. But I would say for the most part people aren't like "why are you going to bike to campus?" versus I would get that at home. I would get like "you have a car now. Why don't you just drive your car?" I am like "I'm saving money and getting exercise and it is better for the environment." Top three reasons. And they're like "why?" There is just not that consciousness there. People don't see the connections and, if they do see them… You know, I think people obviously are the result of, yeah, there may be some predisposition for something, but also heavily impacted by their surroundings especially when they are young. So when people grow up, their families don't recycle or don't care about that, then they probably are not going to either. So even if you talk with a friend it's still not going to, if their family doesn't know how to work on bikes, they are not going to have a viable option there if they don't have the money to buy a bike or their parents are not really supportive of a bike. Oh yeah you should get a bike, not they'll say, you should save up for a car even though I know it is a piece of crud and it is going to break down in a couple of months or something.

A: Yeah. I see what you are saying. You are kind of a product of your environment. That is very interesting. How do you intend to interact with friends and family on transportation or energy issues? Is it something that kind of comes up in conversations a lot?

J: hmm, yeah good question [long pause] Sometimes I …. Energy issues. What do you mean energy issues?

A: Well, like the personal choices you are making or groups you are a member of or like going to this power shift conference. Do you feel it is something you talk about a lot when you, you know, is it a topic of conversation that is important or happens a lot. Do you end up in conversations about that kind of stuff a lot and how do they go?

J: My family for the most part we like see very similar. I mean, there are times where I think maybe like, you know, two years ago and last year, I was even more adamant about it to the point where I would critique my parents like "why do you guys drive to McMinneville all the time. I don't understand, mom, why you have to make two trips when dad …" They wouldn't car pool. McMinneville is a town where we have to do everything. It is like 20 minutes away. "Well, I

have to go in for a doctor's appointment in the morning and then I am going to do some food shopping." And my dad is like, "Yeah, I have to go in at 2:00." And I am like okay. One will take the van and whatever car. "So why can't you guys just save the driving?" To them it is just not that big of a thing because they have the money and it is not like they are going through their last dime. Maybe they just don't see it as an important issue. And its just habit too. So, yes, I do talk about it. I probably did so more so in the past. I definitely talk about, like I said, I emailed my brother, I sent an email to my brother. I was like "about 1,000 people got arrested in D.C. Now is your chance." Because there is a Portland rally against the Keystone XL pipeline. So that is definitely energy related.

…

J: So I am getting on a tangent here but, yes, I do talk about things like national issues with my family. I don't so much, it has to be people who kind of…take my sister sometimes, she definitely thinks eye to eye with me but she just can't handle it. She just wants me to shut up but she's like so what are we going to do about it? She is not willing to just take on that kind of thing. She told me that at this point in her life, she knows that stuff exists but she doesn't have the energy or the will to really work on it. "Okay. I'm going to get people to start writing letters. I will write a few letters myself." Which makes sense. Within any movement or policy change, there is like a core group and then there are people on the outside that support that core.

…

I: What do you think we should be doing about climate change? For example, if you kind of divide the world up into government and policy like you mentioned, individual choices, and say businesses and corporations and what they do, who do you think should be taking the lead on this?

J: Well, I think as I kind of said before, there are both personal choices and policy changes and I look at policy changes as we basically need a revolution. No, ha. I've given up, I'm…I am more excited about the possibility of reinventing a different wheel per se, so I am more into the revolution idea than the reform idea, as in revolution is a new society, reform is changes within society. I think that climate change is a symptom and something else is going to pop up once we fix climate change, if we ever do fix climate change. I have no idea what that will be but I think that, as far as practically speaking today, what can we each do today? We can ride our bikes. We can eat local food, sow a garden. [says all this like it is kind of dumb] I think policy is very important and it is an interesting thing because climate change is such a large issue that to effectively work on it, it is a collective problem but it needs to be solved collectively. It is like the ultimate tragedy of the commons. In order to fix the problem, obviously, we need to have serious international negotiations with targets for CO^2 emissions that are actually going to do something which is why it is so frustrating like when Copenhagen falls through and Cancun falls through or whatever. It is like there were so many people on the streets in Copenhagen, I don't remember the numbers, but there are tens of thousands if not hundreds of thousands of people in Europe saying now is the time, please make the decision. And the problem is it is too much of a... it is too well-ingrained, you know. It is like when are the leaders really going to make a difference and realize that this is a big issue that needs real consideration? So my point there is policy is important but it has to be aggressive and it has to do enough that it will really change things. So with regard to climate change, we need 350, of course. I personally believe that the more that you invest in an issue like getting 1,000 people arrested at the White House was ideal. It was exactly what needed to happen because, if you think about it, any social movement you have to have all different tactics going on. So I view this as a social movement. It is people that are ultimately going to be affected and it is not the people in power that are ultimately going to be affected. Just like most of the time it is the case. But, until it is like civil rights style where people are really out on the streets making this a big deal.

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J: Yeah. I guess it is interesting how you know you can have really effective, civil disobedience, and you can have ineffective civil disobedience. Or I think that, oh, I know what I was saying. Civil rights was a good example or like Gandhi and India's independence. I am familiar with that because I have done a little bit of research and I lived there a little bit. I was born in India. My parents were working there in an international school. But those types of things are super important because they kind of show the gravity of the situation. They show that it really does hold a lot of weight and so I guess that is the type of thing that needs to start happening as part of a larger movement which is happening. I keep getting these annoying e-mails about Keystone XL and Bill McKibbin keeps e-mailing everyone and Wit Jones from Energy Action Coalition or something. And it is like "oh, yeah, people power versus the corporations and stuff" but it is good to gets those but it is kind of annoying to get those because, okay, I am supposed to do a paper. But I would like to see people first and foremost get educated, you know, obviously, the science is out there. It is about effectively communicating what we know and that is why climate change studies and that sort of education and education early on… It is basically coercion in a weird way but it is the right type of coercion. Just like recycling has run its course. We need to show those connections that go to climate change. You need that step-by-step process. What would happen if everyone in this class today drove in a car? How much CO^2? What if we all flew here from New York? How much CO^2? You need that type of connection early on so that it gets ingrained in people to see that. So you need education and, obviously, it always comes back to education. We need really effective campaigns led by people who know what is going on and how to run campaigns and are passionate and whatever. Part of that includes civil disobedience because I think that can be a very effective strategy in part of the whole and personal decisions. So I'd say education. I guess, that's what my three were, education and political advocacy and personal decisions are all super important.

N7.13 Rich

I: And how would you say you interact with friends and family on energy and transportation issues? Is it something that comes up a lot in conversation or not so much?

R: I don't think it comes up a lot. Yeah, I don't think it comes up much at all. We talk about a lot of political things but not much on energy. One of my son's is a lineman for an electric co-op in Shelby, and I think he's probably the least mindful of cost and waste of energy. I mean, as an employee of the co-op, he gets a reduction on what he pays for his energy. We do talk probably energy wise about its production a little bit, solar, wind. There's a lot of wind generation up around Shelby. There's a field of a hundred wind generators. Nobody really uses any of that, that I know of, directly anyway, maybe indirectly off the grid you get some but – no, I don't think we talk much about –

N7.14 Rachel

R: So, my answer is – my real answer which I think is most significant for me – that I usually date men who are the environmental type. They are "sciency" people who have that kind of edge and I don't. So I usually learn from them. That's usually the answer. Otherwise, you know, I read a ton of news sources almost daily, like it is part of my debriefing, downtime at home instead of studying. *The New York Times, Washington Post,* BBC, *The Missoulian* which I read mostly just because it is hilarious. And *Slate* magazine. So I don't read any publications like *Christian Science Monitor* or things like that usually. And my master's degree that I am going for is in public administration and has nothing to do with that. I guess most of the information that I learn

is from the guys I date or people I am involved with, you know, my friends that have that edge to them that are interested in that field of study.

I: Do you feel like energy issues and climate change come up in conversation a lot with your friends or is just kind of by osmosis.

R: No, not really. My friends are usually more interested in politics so their edge and my spin as well. Maybe I learn a little bit more about that, too, through politics, if I think about it.

…

R: Cities at the local level should institute recycling programs. I know Portland has one and it would also be helpful, but I am not sure if the government should mandate that products come in plastic rather than glass. But, I know from speaking with other people that glass recycling is really difficult because they don't have a lot to do with the glass. I don't know, that is what I have heard so you should use less glass products. That becomes like a social movement that needs to happen which I think happens in upper middle class or middle class educated people. I don't think it happens on the lower level. I don't think it happens with people in poverty or people who are buying a lot of fast foods or other (inaudible). Anyway, so I guess I just feel there needs to be a social movement to make it better. I don't know that regulation needs to happen really strict. I mean I would follow the regulation and I wouldn't oppose it but I think they have had too much opposition. I haven't thought about it a lot.

…

R: Yeah, I hear you. You gotta get that social movement. Look at the tote bags. I mean, like we are going to have an island of tote bags. But, at least people are using the totes. It seems like we live in a bubble here in Missoula so it is hard to stay socially – I don't know if you find this as well – but socially like what people are doing around the United States or what they know? It is like "we are so much more educated here" and so then it's like how do people not know that when you read a story about someone in Louisiana or something like that because like "I live in a bubble in Missoula" and when we hear about crime at like the University of Michigan -- shocking. Yeah, its like armed robberies, I wouldn't have said that three years ago but that is what is happening and I am like ha.

N7.15 Liz

I: Yeah, that's interesting, Good points. So I'm wondering in terms of climate change, would you say you're concerned about it or not so concerned or where do you kind of fall?

L: Yeah, I mean, I think I'm concerned about it. I think it's – living in Missoula, I think everybody tends to be more concerned than if you were to live in – I don't even know, so New York or something – not to say that they're not concerned but I feel like Missoula is a very environmentally – everybody loves the earth and wants to be a part of the land and – maybe that's too generalized but I feel like Missoula in general is that way. I think I'm definitely concerned about it. I'd like to see the earth thrive and be good for a couple more generations at least (laughs a little).

…

I: Yeah. Sure. I think that's very common. So what do you think we should be doing about climate change, if anything?

L: I think just – I mean, I think what's happening now, like there's the green movement or everybody is becoming more sustainable and really honing in on that and saying, well, as – everybody should be doing their part, you know, and really giving everybody their own – having

people take their own responsibility for what they're putting into the earth and how they're contributing or not contributing. For me, I think that's a really big thing is just saying, here's these little things that you can do as a person, you know, like unplugging your cell phone charger, your computer, whatever, you know, here's these little things that you can control and just giving everybody those ideas that they can – I think sometimes for me it's overwhelming, like I'm only one person, how much can I do. So I think the more you spread, okay, well this one person can do this and then hopefully we can see some sort of results or whatever from that.

N7.16 Jane

I: That's great. So I'm wondering, you do a lot of things like not having a car and being conservative about energy that are like energy conservation behaviors. Did you grow up in a house where your family was kind of conscious of energy use and transportation use, or not so much?

J: Not so much.

I: How does your family….

J: I think it's kind of like a modern thing. I think we are moving in to becoming more energy conscious. My parents weren't necessarily; they didn't really enforce that kind of behavior in the house. But I'd say that more now that they do, although not as much as I do. I feel sometimes when I go to their houses and stuff that I'm like shutting off lights or kind of doing (laughter), I think it's more of a habit that I created. I'm not sure where from, maybe going to college and learning about conserving energy I guess.

…

I: Sure. What would you say if you were going to say, "Well, I think it's a natural process, or I think it's caused by human activity or something in the middle," or kind of…where do you fall on that one?

J: I, I mean, I do think that it is human related. I think that we are over consumers and we don't really, I think, um, like I say it's more of a modern thing. People are becoming conscious of it but we're still really living in the past in the sense that people don't believe it and they choose not to believe it so they can just continue to live their current lifestyle because it's a lot harder to make a change than to actually believe that we are destroying the planet that we live in for future generations. I do think that it's our, each individual's ecological footprint combined that's creating these massive changes in weather, and destroying the world (laugh) I guess.

J: I think that, I think that it is going to continue to get worse, um, it just depends, I mean, like I think it's a matter of acceleration. I mean just from the little bit of knowledge that I do have, that kind of seems to be the consensus that it's already something that's happened. It's through time, it's already something, I mean the damage that we've done that we can't really go back and we can't take it back but it is something that we can make efforts to slow down or change. And I think that it's just a matter of how many people can get on board. You know, and that's the hard part. It's not, cause, I actually just watched a program the other day and it was taking a couple of people from the city, like New York, and it took them out to one of the sustainability little towns where they function all on sustainable living, their housing, the way they dispose of waste and everything. And it was just amazing to see how these city people were just appalled and they had no idea about sustainability and they also didn't believe in their impact. You know, they're like, "I don't believe that we're about to run out of oil or resources, I just don't believe that." And so this kind of changed their thought process. Again, I mean it's just how do you change the minds of people and especially worldwide, you know, cause it's a worldwide issue. So I kind of see it as maybe something that might not be able to really make an impact on because it takes a collective force.

I: Yeah, that's a very good point. And that actually was going to be one of my questions, what, if anything, do you think we should be doing?

J: Yeah, um, I just think that the number one word of mouth, because, that is, I mean, the society that we live in is really based on, we really take value in what our friends and family think and say versus what we might see in the media or something. So, just maybe making effort, even if you're just one person, and just standing up for what you believe in. You know, and whatever knowledge you do have—sharing that knowledge. I think that just that a small amount of us can spread and maybe create believers, maybe inform somebody of something that they didn't know and plant that seed for them to want to discover themselves more about these issues.

...

I: Sure. I'm wondering if there's anything else that you've done in response to climate change that I haven't asked you about. If there are other thoughts you have on it that I haven't asked the right question to (inaudible)

J: Yeah, not really that I can think of other than just kind of, um, talking about it, you know, kind of talking with people about it. I'm pretty passionate about things that I believe in, so I've definitely gotten in to some fired up conversations that, I hope that, I kind of think that I've affected people at times in conversations with them and stuff.

I: Does your family and your friends kind of feel similarly to you?

J: I think so, yeah, yeah, definitely my parents. We a lot of times have conversations about world issues. We've definitely talked about climate change and my mom and I are kind of big in to the weather. Like I say, I don't know, it's just something we are always watching the weather and there's that movie "Day After Tomorrow" and it's just frightening because we watched that movie when it first came out and now we're like, wow, this is, I kind of feel like that's happening. So, um, so yeah, we definitely do talk about it.

N7.18 Lynn

I: Yeah, totally. So would you say how you approach energy and transportation are similar to how you grew up or different, you know, how would you say you kind of came to where you are on it?

Lynn: I would say that, well, I didn't think about energy at all when I was a kid. You know, it just wasn't a front burner issue like it is now so it wasn't anything that our family talked about. But definitely now, you know, it is a lot more on the forefront about making sure that we are doing our best to conserve as much as we can but just like everyone, I'm sure that we could do better. So, I would say just by learning and understanding the issues and as we got older, you know, and implementing what we thought was important, you know, budgeting, and all those things are factors.

I: So that is interesting because it is kind of more important more recently. What would you say has changed or has anything changed or it just kind of came to that?

Lynn: Well, like when I was in school, in high school, I don't remember people worrying so much about energy or recycling or any of those things. It just wasn't, I think, it just didn't seem to be a global issue like it is now. I feel like the word is getting out the importance is being spread to other people.

I: Actually, it is more cultural, out in the culture. How would you say you interact with friends or family on energy or transportation issues? Does that even come up as a topic of conversation or is that like not something we talk about which is totally fine?

Lynn: You know, sometimes it does come up like my neighbor and I have talked about sharing a recycling program that you pay for and they come pick it up. You know, maybe gas mileage a little bit. But, other than that, just a little bit about recycling, probably not a whole lot.

N7.19 Grant

I: I am wondering how you interact with your friends or family on energy issues -- energy or transportation – is it something that ever comes up in conversation where you talk about those things, either personally how you get around or how you use energy or the broader issues? Or is it just kind of a nonissue or not an issue that comes up much?

G: It doesn't really come up that much. When I lived in the community house it was kind of a big deal because I guess energy was tied into the price on that, too. So it still wasn't like a priority really but, at the same time, we would have house meetings and stuff and talk about turning lights off when you go out of a room, turn the fan off when you leave the bathroom. Basically it was kind of a large house so the main thing was don't leave the room with the lights on, and if you are the last one to go to bed down stairs, turn off the lights.

I: So it came up more when you were living with more people.

G: It hasn't come up as much now in this situation just because I am not paying for it.

N7.21 Ben

I: Can you tell me a little bit more about the biodiesel operation that your brother is involved in? How – it seems like maybe that's kind of related to being in the farming business or just kind of how that got started and how you feel about it.

B: They got into it a couple of years ago, him and his partner, because they were talking to some people that were just going to start, like, they found some – they found some like – they found the process or something on the internet and the machinery, the machinery to synthesize the biodiesel out of vegetable oil and so they were just going – these people were just going to start making it for themselves on their own farm and so my brother and his partner got this idea, well, why don't we just take that, because if these people are wanting to make it for themselves, there's got to be other people around the farming community that want to also burn biodiesel so why don't we just take it and commercialize it because not only were they the only ones in the area at that time but they're the only ones operating in the state, still to this day, there's been talk of people coming into Billings and Havre and Great Falls but nobody's ever actually started up and started producing biodiesel. So they're currently the only people in the state that are producing biodiesel. They got into it because they – through the process of there being funding through the EPA and funding through the growth through agriculture program and all of these different things, they were able to get grants and federal monies to build this plant and then also – because the tax credit that's available for biodiesel blenders and manufacturers, they're able, when the price doesn't get al.l out of whack, they're able to compete with petroleum diesel. That's why they're doing it.

I: Cool. And how do you feel about it?

B: I think it's a great idea. Of course, I'm thinking it's a great idea, but just in general, like, the – we've seen – we've used it on our farm for about 4 years now, I believe, and just seeing how it matches up to regular petroleum diesel, you don't really see any decrease in power wise. What you do see is a little bit less fuel efficiency but it's a sacrifice that we're willing to make just because it burns so much cleaner and you can tell because when you burn – when you burn biodiesel through a fuel system that has petroleum diesel, it will – it's so clean, it acts as a solvent and it takes all of the sediment that you get al.ong with petroleum diesel and runs it through the fuel system so you'll plug up a fuel filter and all that stuff.

Nomethetic Quote Table 8 – Decision Process

N8. 1 Emily
I: How would you say in general that you transport yourself around town, you and your family?

E: We use a car more than anything. I have my bike today. We do try to ride when – it's more when time permits these days. And this funny thing where our dog has separation anxiety so I'm not always able to be gone for very long. But, in general, I mean if I look at the course of the last 10 years of being in Missoula, I used to ride all the time, rode less once I had a kid, but we've always had bike trailers, tag-alongs, you know, we've always been able to commute with bike and now she can ride pretty far so we haven't, you know, just given up on that. But a lot of times, since I work from home, when I do drive, I'm either connecting and doing a bunch of errands at once and going to the University store and loading up or it's evenings and then it's harder from where we live, 3 miles out of town, to bike. So it would be nice to bike more but … I used to ride the bus when I was on campus but I don't do that as much.

I: Yeah, it's kind of hard to get the bus where you live.

E: You know it comes up on top of Lincolnwood, so it's about a 7 minute walk or so. I used to take it more when I had a free bus pass and then when [daughter] was little she thought it was fun.

I: And so what kind of car do you have?

E: Our main family car is a Prius we bought about 6 months ago. And we bought it because it gets good gas mileage.

I: So that's just what I was going to ask. What appealed to you about that car?

E: Yeah, it's more environmentally friendly because we do drive and drive either small trips around town or (inaudible) trips so it gets 51 – it's been getting 51 miles to the gallon.

I: And your other car is?

E: My husband – we have a truck that we – that he uses for work and we use sparingly– 4-wheel drive, sort of more of a work truck. We still use it sometimes, not very often.

I: And did – you already said gas mileage played in your decision – played a role in your decision to get the Prius, did financial aspects play into the decision at all?

E: Yeah, I mean we actually had to save money for a while to get it. We would have liked to buy something like this a couple of years ago, but it took us a while to save money. And we bought a used one that we could afford. But it was a big investment. We've never spent – four times what we've ever spent on a car before, and a newer car because the newer ones do better. So it was definitely looked at as an investment and sort of the right thing to do, even though we could get cheaper cars. We looked at getting a new Honda Fit or something that was – but it just didn't do as well. So we really prioritized the better gas mileage.

I: And so if you were going to buy another car – you just did this 6 months ago – what do you think you would get?

E: Well, at this point, if we needed a new car, you know, ours was slammed and we had to go buy a new one, I would get another Prius. I'm looking forward to the day when we could buy plug-in Hybrid and have solar panels that we charged our car at night and that kind of system. We might still have a backup. It's going to be a while before we can drive Hybrid electrics around the country, you know, if you're going on vacation or something, but we do enough driving around town that I think hopefully there will be a system set up where we could have a plug in, not have to burn gasoline. And then that electricity was reasonably green. So that will be a few years.

I: And so in an ideal world, if you didn't have constraints, no constraints, how would you like to get around?

E: If my dog – once my dog gets more comfortable – we've only had him, as you know, for 2 months, so we're learning how to get al.ong here, it's been a bit of a project because he's a rescue dog – so I would like to bike more. I would like if there was a better bus system. I do some traveling in state for work. I would love that the Amtrak ran from Missoula to Helena to Bozeman to Billings. I would use it a lot. So for larger – I don't drive much on a day-to-day basis, but when I do drive, it's to Helena or sometimes to work around the state. I would love to take the train and work on the train for transportation. So in an ideal world, I think, one, it would be – it would be more varied and more public transportation oriented. If we had a better bike lane, even one up the Rattlesnake that was safer, it would be easier to go with the kids and more people would use that.

I: Yeah. Have you made any other big decisions that relate to transportation, you know, like where you live or, you know, vacation travel or any other things that you think are relevant that relate to transportation?

E: Yeah, I don't definitely make a lot of plans to fly places just because of carbon footprint stuff. It's not like I do the calculations every day or something and maybe if we had more money, I would be sloppier about that but maybe so it kind of works in our situation. I think in terms of where we live, when we first bought the property that we bought, we were looking – we were looking to some degree further out from Missoula, and I knew that that wouldn't work because I wanted to at least have the ability to ride my bike and, as I said, I used to ride it when I was a student on campus, I worked on campus, I rode it all the time four, sometimes five days a week. But we definitely wanted to be within a reasonable biking distance, not that some of those places further out aren't bikeable, but I think the further you get away, the harder it is sometimes to do that, depending on the person. Some of it is just the time constraint more than it is the ride itself. You've got to get home, your kid's coming home from school, or it's getting dark. Yeah – so I think we did decide to live in a place that was bikeable and not any farther out. It's definitely a **compromise** because if we lived even closer to town, we would probably use our car less. But we like where we live too for the amenities.

…
I: What are the important issues or concerns for you and kind of how you generally feel about and act towards energy in your house?

E: I think my husband and I told you I'm obsessed with it, which seems a little far, but we've done everything that we could to low (inaudible) in our house to be more energy efficient. I think – again, there's some money constraints. If we had more money, we would probably buy a new refrigerator, we'd probably get some more energy efficient windows, and we'd get solar panels, all three of those things we continue to think about and try to figure out which to do when, you know, it seems like every time we do something, 6 months later there's a big tax break and the prices go down. We're always like 6 months too soon. And our refrigerator is not that old and some of those things. I think behavior-wise there's not a

whole lot more that we can do. A lot of things are on the power strips. I turn everything off all the time. I just looked at our monthly energy use and it's a little over 200 megawatts per month, which I think the average house is 850.

I: Oh, wow.

E: I don't know if that's the average house in Montana, and that may not factor out the fact that our heating comes from natural gas. So I don't know – I just read something in the paper that that was the average number but a lot of people still heat their homes with electricity so that will bump up that number. We have a small house; we do the behavioral things that we can do to keep the energy down. We're not perfect by any means but we do – it would be nice to be able to do the next bigger projects of maybe better windows, especially it would be nice to have solar panels. But as I've been trained enough in this to know that really the energy efficiencies are the first things that you need – that make the most sense to do before you get out the generating of electricity. You may get more energy efficient appliances and go down that road. So we're thinking about it a lot. I don't know what our next step is.

N8.2 Crystal

How would you say in general you get around town?
C: By a vehicle.
I: ok
C: Um, we have three vehicles, um we bought a bigger truck because we do camp and we do have a boat. Um, but because of the cost of the fuel and the economics we also bought a little Toyota Corolla. It's a 95, it's a standard so, I think it's easier on gas that way too. But that is our primary running around town vehicle. My kids are in different activities and I am pretty much the primary person running them back and forth. So the truck sits unless we're going camping unless we need to haul something for a truck. Otherwise it literally sits and we changed the insurance so that the insurance is now just for recreational vehicle and so it costs us 10 dollars more a month total for insurance by switching that and having the car insured now. So I have a mini-van cause of the kids.
I: yeah
C: and um the Toyota Corolla, as much as we can use the Toyota. And the truck sits I mean that was the main reason for getting the car.
I: ok, yeah interesting. So the next question, we kind of touched on a little bit but I'd like to hear more about is what appealed to you about the different cars that you have?
C: Mm hmm so the van was because I have three kids and just transporting and we have other kids go with us so we just needed a bigger car. I had a Dodge Stratus before that but it just with three kids and if you wanted anybody else it was just getting compact with car seats and stuff like that. So um, that's when we went to the van. And we had a truck prior to that again because we had a camper. And then the van is an 02 and we'll keep that pretty much until it dies I think just because of economics. And the car we got last summer—(phone rings) Uh I think I need to get this.
I: oh sure
C: I don't know who that is….so the car we got last summer when we got the truck because the truck gets about 8 miles to the gallon, so that was quite a surprise for us. So that's when we decided that we needed to buy a car outright. We wanted an older car so we didn't have to put a lot into it and we wanted a car that had decent gas mileage so….
I: interesting, ok so my next question is did gas mileage play into your decision to get any of those cars so it sounds like it was at least for the Corolla?
C: right, for sure absolutely for the corolla I mean we get like 30 miles to the gallon…
I: wow

C: so you know compared to 8, and you know for us in town…it's not as convenient, my husband is also in the international guard so he has to go to great falls and he has driven the corolla sometimes but its just not as comfortable as the van, but uh, most of the time we use that as commuting vehicle for sure.
I: yeah, um and what about different financial aspects, did that play into the decisions on the different cars? I mean I guess in terms of gas mileage you mentioned…
C: Um yeah for the gas mileage it did, and it was an older car so we bought it outright so we didn't have a car payment or anything like that. So that we definitely took into consideration. And same with the van I mean I'm pretty frugal when it comes to things like that so I wanted to make sure that we had our payment that we could afford and I always pay extra so we can pay it off early. So um, definitely price is always a an issue with us. And I think the next vehicle will probably be price and gas. I mean think its both that are going to go into effect because I mean gas is just going to keep going up.
I: Yeah, it's expensive. Um, so I was just going to ask to ask you actually—your good your anticipating my questions. I guess that means they make sense? So, I'm wondering if you were going to buy a new car what would you get?
C: I really don't know what's out there I haven't really shopped. But I would definitely buy, because of the family a four door. Something economic I mean definitely, I try not to buy brand new because it loses its value but within a year or two so it still has a warranty. But gas mileage is going to be a big deciding factor for what we get for sure.
I: interesting. In an ideal world, with no constraints how would you like to get around?
C: well, you know it's hard for me right because of kids um I would commute to work for sure. I'd do the park. Because I pay for parking. So if I do the park and ride I wouldn't have to pay. I could pay a commuter (parking rate) because that's a lot less expensive. Then I could drive part way and ride my bike so I wouldn't have to worry about parking. I just don't feel I can do that right now with my family because I'm the primary person that if somebody gets sick at school or something. But when my kids get older I plan to do that.
I: ok, interesting And so the follow up on that is what would have to change in the world for you to be able to get around like that. It sounds like it has mainly to do with kids or?
C: The kids just need to be a little older so that if they do call and their sick or something I can get there in half an hour or a little bit longer. And their activities, you know I have hustle out of work and go hurry and feed them and hurry and take them. So if they were able to drive themselves than I could give up my car for them and I can use a bike or something.
…
I: And so what appealed to you about the house you live in now?
C: we moved not very far, about 3 years ago. And um space, because we have three kids. My two younger ones were sharing a room and they were getting old enough that they needed their privacy. So,
I: they are a boy and girl right?
C: Yeah, we wanted their own rooms. And the school district was the same, so we wanted to keep in that same school district. And this had an amazing yard. And we are outside often. And a lot of times you can't find big yards and so we really liked that we had a big yard.
I: yeah that's great, that is hard to find. Um, so I'm wondering about energy use in your house. Are there any concerns or issues or thoughts that you have about energy like either heating or cooling or electricity? What comes to mind for you on those issues?
C: Well when we bought our house we did an energy audit, just to kind of see if we were losing or what we were doing. We put more insulation in cause they advised us to, we put new windows in all of our windows upstairs and down. And currently we have a gas fireplace that is not really functioning and to be honest you can feel the air coming out in the winter time. So we're in the process of doing a gas insert to also help with our electrical bills and I think so that we're not losing any of the heat out the chimney.
I: yeah, interesting.
C: we have a gas insert or fireplace downstairs too it's a stand up. We'll use that sometimes too but mostly we use our electric. And um we're pretty conservative. We have a timer on our thermostat so we turn it down when we're gone during the day and we have our home mode our evening mode and our

weekend mode so we're pretty efficient with that. And we have blankets. [Friend] makes fun of us with that (laughs. When company comes we will turn it up but for the most part we have sweatshirts on because we don't want the heat bill. And it's not that it's uncomfortable it's just we don't have it toasty warm in there. We definitely think about that. And we do have an air conditioner, its central air.
I: oh, ok.
C: but we are also pretty cheap with that too and so maybe three times this year we turned it on. My husband cleans it out but for the most part of the time we use fans, so again to keep down the costs.
I: So it sounds like primarily these are to conserve on the energy bill. Is that right, or are there other kind of thoughts going on in your head in terms of how to decide about how to use energy or what appliances to buy or?
C: Yeah, most definitely we got a new dryer and we wanted to make sure that was and a new fridge and that was because the other one was running constantly. I mean it was doing ok but it just was an older fridge and so we decided to get a new one because of the energy costs and the dryer the same way it just wasn't working well. So, um I think we do make conscious efforts with that. All our light bulbs are the squiggly ones. So we've changed out all our light bulbs in the house so their like that. Um and we have lower watts of light bulbs. And our kids are pretty good about shutting them off when we're not in the room. So we try to be pretty efficient that way.
I: yeah, great. Do you feel like you notice a difference, like you can tell when things are going up and down?
C: Yeah, we definitely can because of the company. And we are fast shower takers so we really watch the heat with that too. And we wash our clothes in cold water and we hang them for the most part. My husband built racks to hang them on so we use the dryer to kind of fluff but we don't dry fully. And I'll put the racks outside in the summertime. But um, my son calls us cheap (laughs). But I don't know we've just always done that and we just feel we should do that. Plus our appliances will last longer too, the less we use them as much and we take care of them.

N8.3 Amy
I: how do you in general get around town?
A: Uh, with my car, yeah. Well I guess I don't really go around town that much. It's just really commuting from home to work is what I do. I do have to come into ton on the weekends when I have to do laundry because with being solar we don't have a whole lot of electricity up there. So I still have to come in for laundry. But I don't really spend a whole lot of time in town. I kind of like being up in the woods and.
I: Um, where do you live?
A: Potomac.
I: oh, is that up in Seeley?
A: On the way to Seeley, it's up the Blackfoot. Most people when they think of Potomac think of that little valley town right off the highway. I'm not there. They have electricity there. I take a turn and go up into the hills where the ranchers are and I'm probably about 4 and half miles from the highway. And yeah the power company just hasn't invaded that little corner of the world yet, I hope they don't either.
I: yeah, well you've got a set up so that's cool. What kind of car do you drive?
A: It's a little Subaru wagon, yeah actually I just got it in November because it has better gas mileage than my old 4-runner had.
I: oh, ok. Well that was going to be my next question, what appealed to you about that car?
A: That was it, yeah I definitely wanted better gas mileage with that long of a commute everyday.
I: yeah ok, um and so I was also wondering if gas mileage played a role in your decision of what car to buy. It sounds like it did. Anything else like..?

A: Yeah well to get in and out of where I live in the wintertime you have to have 4 wheel drive, you're not getting in and out of there with a two wheel drive so I had to have something with all wheel drive and enough cargo space for my 160 pound dogs. I have two mastiffs.

I: oh wow.
A: they're huge so. They're ponies.
I: yes, they are, they're very pretty dogs. And so if you were going to buy a new car, you kind of just did, but what would you get?
A: I would really love a hybrid. You know something that's not guzzling up so much gas and making so much pollution. I just don't make enough money to buy one of those.
I: yeah, sure. And so with the hybrid is it primarily the gas mileage that appeals to you or?
A: well trying to reduce emissions really. I mean that's where I'd like to be, you know just not spitting out all that pollution.
…
I: So, what appealed to you about this house and this location?
A: I like the idea of being off the grid. Of not being dependent on the electric company and that kind of thing of having to pay for power. And at first, we just put the solar in about 2 years ago, I think so before that we just had like a pair of batteries that we were keeping charged so we could like run the water pump and keep the water running through the house. Then we put the solar in and that runs the water pump but yeah, it was just I think it really goes way back I used to fantasize when I was a kid about living in the 1800s. You know where people were just like hands on with their life. It wasn't all automated. So when I found that here I just had to be there, you know. I was in love immediately.
…
A: Interesting, it sounds like you enjoy living off the grid, just kind of tell me a little more about what keeps you doing it. It sounds like it's more work than just a regular house.
I: It is, it is. There's a lot of planning that has to go into it. We have to go out in the summer time and find dead trees. And Bill used to be a logger, so we take them down and take them home and spend the summer splitting that for our winter firewood. Because we have a woodstove, that's our only heat. And it is work, I think that's what I enjoy about. Um, I don't it's funny because a friend of mine said, see we don't have television, so a friend of mine said when we first met and she discovered that she said well what do you do? And I said, well I don't call sitting on my butt staring at a piece of electronic equipment doing anything. So you know, she's like ok, that makes sense. So it's just having those things to do to keep the house running. That appeals to me. It doesn't appeal to everyone. There are a lot of people who like to have automated everything, an automated house and just sit back and kick back. But that's just not for me.
A: yeah, interesting.
I: oh, that's my phone.
A: Do you want to get that?
I: no I don't, actually there's my girlfriend that I was just talking about.
A: So, uh, it sounds like if I'm kind of understanding what sort of motivates your willingness to do all the extra work and live off the grid, it's partly because you actually enjoy doing those things?
I: Yeah I do.
A: and also the desire to be independent of the electric company you said, can you -
I: yeah and there's a certain amount of satisfaction with keeping your house going with your own two hands and I like that. I like being hands on, but I'm sorry I cut you off.
A: no, no that's ok I was just trying to make sure I was understanding what keeps you at it.
I: and yeah, there's just that sense of satisfaction that I'm doing this. I'm keeping us warm, I'm feeding us and – (referring to phone) she's just not going to leave me alone. Oh no it's just a voice mail. Um, yeah so just the fact that I'm doing this, we're doing this, he and I on our own. It's just sort of a feeling of independence.

N8.4 Sonya
I: Ok, maybe we could get started on transportation issues? Um how would you say you transport yourself around town.

S: When you say me, who are you talking about?

I: well, you know, that's a great question because you have you and your family. So I guess I would say you know getting yourself and your family around town, what are the main sources of transportation you use?

S: well, so if it's just me and I'm going someplace that I don't then have to coordinate other people I use the bike. But since I try to piggy back many activities, I end up using our Toyota Prius,

S: Yeah, we have two cars. But I'll go back to transportation, since we are a family. We also have a tandem bicycle. So [husband] does usually is he bikes to work we live up in the rattlesnake on his tandem with the possibility that there is one child that will be doing an afterschool activity that I would have dropped off that he then picks up on the tandem and rides home. So we have two cars. We have the Prius which is what we use almost all of the city driving. We also have a VW vanagon or one of those things.

I: yeah, like a westfalia?

S: yeah, one of those pop up tops that can seat 5 kids in the back. So this afternoon I'll be using it because I'm picking up 5 kids at school. So there are times we use that. And then when we go on road trips we use that.

I: great, and what appealed to you about those different cars.

S: well the euro van I think it was because I grew up with a pop up van so it was kind of fun to have one and we needed a vehicle that would fit more than three kids. We're trying to get rid of it. We're hoping that the mini van will come out with hybrid. Toyota has been talking about it for a while and I don't know why they haven't because I would think there would be an incredible market for it. And then the Prius, for the gas mileage and fuel consumption. And I know a lot of people are buying it for the price of gas, we were doing it for the environment.

I: great. And when you say you are doing it for the environment are there any particular issues that were in your mind or your thoughts in terms of what the prius would help with or just in general?

S: in general, I mean petroleum extraction, global warming, yeah. I mean trying to take as little form the planet.

I: Yeah, great. My next question is did gas mileage play into your decision at all?

S: Well, yeah it did with both. Meaning we're aware of it. The VW does not get, I think it gets the best we get is maybe 25, 28 on the highways but it can get a lot less, around town it gets a lot less. So we were conscious of it and we looked for mileage but we did not get a car with great mileage. And the Prius obviously was all for gas. It is wickedly tight. We have tried to do a road trip in it, we have three kids and two dogs. And we have tried to do it, but the 7 of us in the Prius is not very pretty.

I: oh yeah, how about financial considerations, did that…

S: um…

I: could be fuel costs or….

S: fuel costs was not the reason we thought about that. The Prius is an expensive car but uh we thought it was worth it.

…
S: In terms of travels, no we haven't really changed any trips. Um because of transportation. We are very aware of the effect of planes and global warming. But our family is all back east and it doesn't effect it, I mean we take the planes.

…
S: We don't believe in building houses. I mean, this was an infill. There was already a foundation there. It was in a pre-existing neighborhood. They were going to be building a house there. And we were talking to someone about it and said well how many bedrooms yadda yadda so we went with this guy who owned the lot and was a contractor and we were his first green house. So it was kind of an interesting experience. I think he got a lot out of it. There was trial and error on us. So we ended up paying more. It was his property. The only way we were going to build a house, the only way [husband] was going to build a house is if we built a green house. I mean using as much reclaimed wood as possible, wool carpeting, less toxic stuff. But then in terms of the actual, there's the energy that goes into the house and we tried to reduce our use of resources there. But the only way, [husband] said and I agree, in order to be building a house we have to be doing something that makes that house different. And so we have ground source heat. We have no gas in the house. We have solar panels.

…
S: yeah, it might just be part of my blood. And [husband] was not rasied at all as alternative as I was and he's crazy in his obsessiveness to be on the bike. To me, we don't want to get into maritcal disputes here. But sometimes it's just the logisitics. I mean, why are going to take the bike and then you've got to go there and there and there. He's sometimes just thinking environment and I'm thinking practicality.

…
I: yeah, what do you think will happen in the future? What are your concerns

S: I think there will be indegenous populations as there already are that will be obliterated. They will have to come up with different ways of living or go the way of many a species. Ah, the drought, I don't see anyway that anything is going to be the same. Climate change measn climate change, wet places could be dry, dry places could be wet. The ocean levels are going to be rising and so ah, I'm not as compassionate to people, besides indigenous people. So our lifestyle affects the melting of the ice caps and so I think its incredib;e and you know the whole oil spill so now people care about the usage of oil because its affecting that areas in the southeastern united statres. And its not until people are truly affected that they care, but then it's too late. I mean if the water levels are rising. I think ingeneal particularly americs, myself included, is so far removed. Anf in missouls people are complaining that the skiing has gotten worse and I has. We lived here 20 years and the number of days has gotten worse. But Imean that;s pretty…that's why people care. But thenagain here we are driving up to go skiing. I mean we're not chaingin our lifestyle. We're as selfish in terms of the effects as other people.

…
S: So what should we be doing? What should we be doing. You know it's a really hard one because should we be doing personally I mean personally we should not be driving to Discovery every weekend in the winter in our big van. But we will. So specifically what's the question? What are we willing to do?

…

S: yeah, I mean we're willing to change the things that are easy to change. I mean we are right no in kind of financial deep water but I don't see us losing the house so it's easy for me to say that. We're still skiing we're still flyiung .

N8.5 David

I: So, how do you mainly get around town, you know how do you transport yourself, what are the main strategies you use?
D: Sad to say, we primarily drive.
I: but you have a prius so you're a pretty virtuous driver.
D: yeah, yeah, we do use bikes a fair but, we used them more before we had kids. I don't know if you have kids, but when you're transporting kids you end up driving more. It's the path of least resistance. If you're dropping the kid one place and going somewhere else. (wife) is actually quite good. She'll sometimes put a bike on the car, especially when we drove our daughter to preschool and use the bike for daily errands and put the bike back on the car. But I would guess that 80% of our around town transportation is private vehicle.
I: yeah, and I would guess that, I'm not sure what the bus route is around here, but I don't know if it comes out here?
D: The bus route is not that bad, you know this Lincolnwood neighborhood behind us? It goes to the top of that and you can cut across a park and get to it.
Wife enters – basic introductions.
I: so how do you usually decide between your different transportation options, you know if you're going to take that bus, or if you're going to ride your bike somewhere, are there certain things that trigger one or other?
D: yeah, yeah, I guess this is true with most people, it's kind of unconscious, you just assume you're going to take the car,
I: yeah, I know I do too, that is my default too.
D: as far as a conscious decision making process, if I come up with something I'll get back to you. But the default assumption is we are probably going to drive and we have the conflicting default belief that we will try to minimize driving, but you know the one that actually gets things done is the one that usually takes place.
I: I already saw your cars, so I kind of know what you drive. But it looks like you have a Prius and maybe a Toyota truck?
D: Yeah, actually it's a Nissan truck. (note, small Nissan, like a Ford Ranger size).
I: and when did you buy those cars?
D: we actually bought both of them about 5 months ago, February or March I think.
I: oh, so both pretty recent. So, if you're willing to say, sort of what appealed to you about both of those vehicles?
D: Um….(pause)…so in the Prius, it's the mileage and the carbon output were the big factor. Our previous attempt to drive in an environmentally friendly way, was we bought an old diesel Mercedes as we were making Biodiesel.
I: oh wow!
D: But that was an old not very reliable car so we also have a Volvo all wheel drive wagon, which was getting old anyways. It was safe and reliable. But it got maybe half the mileage the Prius gets
I: oh wow.
D: Yeah, a very heavy all wheel drive car. Uh, and then there were some complications with the biodiesel brewing which is mildly toxic, so we didn't really want to do it here. So for a while the processor was at the Peas farm and we were letting some other people use it. And that worked out pretty well for a while. But then people made messes and they got tired of having it at the Peas farm and we got evicted from there. And a combination of things. The Volvo had almost 200,000 miles on it and we were not having the time, especially after getting booted from the Peas Farm, to do the Biodiesel brewing. So the Pruis

seemed like a good compromise. It replaced the safety and reliability of the Volvo and to some extent the environmentally friendliness of the home brewed Biodiesel.
I: how did you get into brewing Biodiesel?
D: Let's see if I can remember this. I think in large part it was a response to the Iraq war which we opposed pretty strongly. And felt like there really was blood involved in protecting these sources of oil and that we should do what we could to move away from it. And so, the gathering used veggie oil and turning it into fuel seemed like a pretty good thing to do. And it is a good thing to do. But it's not really a viable solution because there is not enough used veggie oil in terms of powering the US vehicle fleet its just a drop in the bucket. And it's a significant inconvenience if you're actually going to do it yourself. I'm sure you've run into that already and a lot of interviews will be about balancing convenience with doing what you can do.
I: yeah, yeah but that's great, you're doing a lot more than the average citizen is doing so.
D: we burn plenty of fuel.
I: It sounds like gas mileage did play a role in your decision to buy the pruis and environmental factors. How about the truck?
D: actually similar factors, for a work truck it gets pretty good gas mileage. We felt like we needed one that has four wheel drive.
I: yeah, yeah and I could see how you would need a truck for work. Did you decide on those vehicles on your own or did you and (wife) decide together?
D: Oh, we decided together
I: and did you both have a similar point of view? Or?
D: yeah
I: So if you going to buy a new car –which you just did recently—but if you were going to do that again, what would you get the same things or other things?
D: I'd say we are pretty happy with those. We would look into a plug in hybrid probably. Wife's dream would be to get a pug in hybrid with solar panels.
I: yeah, that would be great. I feel like maybe there are kits you can get to convert a prius to a plug in, but then maybe that would void the warranty…
D: Well, voiding the warranty is not as a big a deal in fact the warranty will be up soon. It's mostly the effectiveness, there's a big tradeoff in the weight from adding additional batteries, which decreases your mileage fairly significantly, and the boost that you do get from having the extra batteries is, depends on who's doing the test, but Consumer reports who is probably fairly objective found that there was a pretty small benefit. And if you take it on a long road trip, those batteries deplete their charge in the first 50 miles or so and then you have to carry the dead weight for the next 1000 miles or so. So, you actually lose on that situation.
I: yeah, that makes sense, you've really thought that through well. So, in an ideal world are there ways you would prefer to get around, in an ideal situation?
D: I think ideal would be all electric with energy that is generated from solar or wind, or I don't know if you want o call hydro a clean energy source but…
I: definitely lower carbon…
D: yeah, lower carbon, in terms of broad environmental impact, I don't know that there is ever going to be anything that is entirely clean. But I don't know electric vehicles and fast recharge, and battery swaps. I think there is a group in Israel that is working on a series of battery changing stations where you can change out your batteries.
I: yeah, just like going to a gas station…
D: and much better mass transportation.

N8.6 Gary
I: And the work truck, how did you come across that? It's a pretty unusual vehicle.

G: It is unusual. I've always had – I almost always get four or six cylinder trucks, try hot to get eight cylinders, just because driving around in town is just inefficient. It's just inefficient for any vehicle. But I went from older trucks that were getting on the highway usually 22 to 24 miles per gallon to the mini truck because I really only need to haul my dog in the cab, or occasionally one other person, and I needed to heat, cool, and traction and haul stuff, so it is the smallest, realistically viable vehicle I could find, and within a price range – it only cost $5,500. I wish we made them in the United States. My street has three of them.

I: Wow, you must have – people saw yours and then –

G: I did – it was right at the time when gas was around $3.85 a gallon. It was really headed on up there. And I thought it was going to stay there. Whether it did or not, I'm very happy with my choice. Of course I have concerns about no – what do they call those bags –

I: Airbags?

G: No airbags and no real bumper. So, no, it's not the safest vehicle but it's probably as safe or approximately as safe as all the old cars that I grew up with. It had no seatbelts and bad roads and people were crazy … they're still crazy; more of them are drunk now –

I: Yeah.

G: -- and you just have to really drive defensively and I'm hoping that will work for me but it's not a safe vehicle. I wouldn't take it to Hamilton. I wouldn't drive it to Helena. But for in town, which is 90 percent of my driving, it's great. So that's why I chose it.

I: Yeah, terrific. And how would you say gas mileage figured in to your decision about buying either of those cars? It sounds like it was a factor.

G: It was a huge factor. Dropped some of my fixed costs from my company, which are not insignificant when you've got a lot of rigs to maintain and change the oil and fix all the parts that fail on older fleet of vehicles but it was also trying to find a sized vehicle that was appropriate, you know, do I need a big four-wheel drive truck to haul me and my dog around in 80 percent of my driving; 10 percent, 20 percent of my driving is hauling stuff. Well, that's a real small part of my driving. So I try to size a vehicle, personal vehicle that was more analogous to what I was doing in the day. It hauls me and my dog, it gets great mileage, I got excellent traction, and it's the most fuel efficient thing I could find. I don't think anything else exists that's more fuel efficient –

I: Yeah.

G: -- in a pickup truck, small pickup truck. So, yeah.

I: Yeah. And similar for the Jetta was fuel efficiency an important consideration?

G: Absolutely. Yep.

I: And, again, would you say it was primarily the cost consideration in terms of fuel economy for both?

G: What I tried to do is I tried to buy the most fuel efficient vehicle I could for the dollar. Now, you could argue why didn't I get a 1982 Subaru? Those were great. They're great vehicles. But

you get to a point of diminishing returns. You don't to go too old because then you just start to patch and repair all the time, and I hang on to rigs far longer than I should, but there's an argument that buying old and patching, repairing is always more cost effective than buying new but I've been there and done that for so many years now that I figured two rigs that were around 10 years old was pretty decent.

I: That's interesting.

G: But there are more fuel efficient vehicles that were built in the '80s.

I: That's interesting.

G: Oh, yeah, they were great. And if you can find one today, great, but you have to fix them, you know, so –

…

G: So you kind of – I'm kind of an energy nut, I think, even when the guys that came here to do an energy audit a few weeks ago, as they were coming here, they were looking at my power bills and they're just going, what is this guy doing? What – he must have a bunch of photovoltaic panels on –

I: Like, how are these so low?

G: Yeah, what's going on here? I just keep my thermostat at 60; turn it down to 55 at night. I wear sweaters, and I like coolness. A lot of people don't. But when my partner comes over, I have to turn it up to 64 –

…

G: So in terms of the house, when I retrofitted it, I super insulated it, put in new windows, R60 on the ceiling, R26 on the walls, 94 percent efficient furnace underneath your feet. I just did – I still have water heater that works, it's not the most efficient but it works, and my consumption of gas to heat water here is pretty negligible. So I'm just hanging on to it until it dies. But I do have two photovoltaic panels on the roof that are back feeding into the grid that reduce my electrical consumption in the summer. So – but I don't really want to go overboard with photvoltaics right now, they're expensive and I'd rather cut my consumption than to create more electricity.

I: That's interesting. That's an interesting choice. Can you say a little bit more about where you're coming from on that?

G: Well, you can save money by sale items or you can save money by not buying anything you're just not needing it.

I: Right. Right. Yeah. And do you feel like that's a better, you know – what makes that a better choice, in your opinion?

G: Just consuming less resources.

I: Yeah, using less.

G: Trying to consume less resources. And raising my own food as much as –

…

N8.7 Indigo[5]

I: I'm wondering how do you mainly get yourself around town and back and forth between?

R: Back and forth? Well, since we've – since I've moved up to Potomac, I use a car and we carpool as much as we can. Kind of arrange our schedules so there's always 2 people. Try really hard to have at least 2 people coming down the hill, as we call it. When I was in Missoula, it was bus, bike, car when I had to but most of the time bus, bike, and walk, because I only lived over on the slant streets.

I: So when you carpool, you're carpooling with other people from your community?

R: Yeah.

I: And maybe work in town?

R: Work in town, yeah. One fellow teaches at the University and I work here and another person teaches at the MIS, Missoula International School, she's an art teacher, and Rick comes into town because he does, you know, graphic arts and needs things so we have – and another one teaches – so, yeah, there are 7 of us. So we have cars going back and forth.

I: That's great.

R: We try to take the most economical one. We have several choices but in deep winter or when it's really bad weather and really bad snow, we take the 4-wheel drive, which does not get good gas mileage but it holds everybody and it's safe.

I: Right. Right. That's important.

R: That's our choices.

I: Well, I was actually going to ask – my next question is what sort of car do you have?

R: I have a Dodge Caravan and it holds 7 people and gets over 20 miles per gallon. In the summer it's closer to 30. It's an old one but it gets really good gas mileage so that's why we use it a lot. It's the one that gets used the most actually because it holds so many people.

I: And do you share kind of within your community –

R: We pass keys around, yeah.

I: So there's a whole range of – everybody has their own personal vehicle but, you know, depending on what people need to do –

[5] For Indigo's interview I used R[espondent] instead of I[ndigo] to indicate the interviewee because I was already using I to abbreviate Interviewer.

R: Yeah, how big it is, how economical it is, or what specifically has to get done, that's when – we have a suby, Mitsubishi Montero, which is a 4-wheel drive, my Caravan, and then we have a plow truck, which uses horrible gas but we're responsible for – there's 5 – what do you call it? – on Macardi (sp?) Road, there's 4 other big, you know, houses or people and we all share plowing the road, so a plow truck is necessary.

…

I: So what appealed to you about the car that you own?

R: It is really comfortable to drive. It gets really good gas mileage. And it's got air conditioning – the whole thing. It's just really comfortable. It's a Dodge Caravan. It's '91, it's old, almost 200,000 miles on it, but it's still the most comfortable car of all of them to drive and it holds a ton of people. We can get 5 people and all luggage, you know, to go to like – we went backpacking one time, 5 adults plus all our backpacking gear for 4 days fit in there. So it holds a lot and it rides really, really well. So that's the reason.

I: Yeah. And did gas mileage play into your decision when you purchased that car?

R: Yeah, definitely, because I had a big van so this was downsizing for me, and at the time I had a daughter in tennis and in soccer so we were doing the soccer mom and tennis mom thing with lots of kids and gas mileage and size was – how big can you get and still get good gas mileage? It doesn't get 40 like one of the other vehicles would get that we have up there. We have a Volkswagen Jetta diesel and it gets 40 miles per gallon. So we drive that a lot in the summer. It's not air-conditioned, though, so. But it's still okay. It's not that long of a drive, half an hour, we can handle it.

I: Yeah. And how about financial considerations, did that play a strong role in –

R: In buying the car?

I: -- in your thoughts in buying –

R: Yeah, it was cheap. It was like $3,000, you know, and I've had it for 10 years, yeah, more than 10 years. So it's the way to go.

I: Yeah, that's great.

R: Used cars are that way; you buy a quality one real cheap and hang onto it.

…

I: And I'm wondering if you made any other decisions that relate to transportation that we haven't covered? It could be like where you live or it could be traveling, you know, traveling on vacations or if there's anything you think of that has to do with transportation –

R: That's the main thing. Because when you have to fly, you fly. But I don't' fly unless I have to. Because flying, I know, I've done the footprint thing, and flying is one of the worst. Uses a lot of fuel and leave a lot of junk in the sky. It's really sad.

I: That's a good point.

R: Yeah, but, hey. Like my granddaughter in Boulder, Colorado, and that's a thousand miles a way, I'm not going to drive it, I mean, this time of year. In the summer I would but not this time of year.

…

I: And how did you get started on that idea? I mean, what was sort of the – it seems like you have some sort of a theme or founding principles or something like that.

R: Well, eco villages are permaculture, and eco villages – it's a global thing. South America has tons of them. So that's kind of like the founding thing. If you look on global eco village network, GEN, you can see all the eco villages and all the – mission and vision statements. We have all that. Operating agreements and – you got documents up the ying yang and we formed an LLC to hold it all financially so it's pretty structured, which is good. And I guess I've always been interested in community – I spent a summer in ashram one time, and I thought this is the way to live, you know. It was a long, long time ago. And then went and got involved with the cohousing group and that fell apart because people wanted their house right now and weren't ready to spend time as a group to develop everything. Then ran into this group, and [names a person] just said, Oh, there's a meeting tonight, and I go, I'm going, you know. That must be 6 years ago. I could look on the calendar. I don't remember. It's been a long time.

I: Yeah, that's great.

R: It's been a long time. And then the group as a group, you know, people joined and left and joined and left and joined and left until there was just a solid group of 7. We just kept going and developed all our missions and visions and did all that kind of stuff for the eco village and the financial structure and land thing and we had that all done before we found the land. We looked at a lot of land, a lot of property, and when this one popped up, it was like we were ready, and it was ready. We just like walked in, do it.

I: That's great. And it's called an eco village. Does it sort of have an environmental focus or how would you describe kind of in a nutshell what it –

R: Well, it's based on permaculture, and permaculture is social and environmental. It's the whole thing. It's a decision-making by consensus and it's living in a very efficient way so that, like they have zones, so like your house is zone 1 or zone 0, it's like that's the center, and then you put things, like concentric circles basically around your zone 0, zone 1 – zone 1 is just basically outside the house – so that everything is efficient. You try to do it as efficient, and they call it stacking function so like the chicken provides eggs but then it also provides poop, and then we take our compost and feed it to the chicken. All those things. Everything is in cycles, nature knows no waste. It's based on that, basically. You use and reuse and reuse and reuse, and we don't throw things away, as much as possible. And we do have garbage cans and we do use – it takes us a long time to fill garbage cans, which is good. We don't dump on the land, except for compost or like slash, you know, natural materials. And then we're building, you know, what they call swales so – we bought a chipper so we can chip slash and make swales which makes little berms so as water falls – we live on plateau, or table so when the water falls down from the house, it gets caught in these places so it stays wet year round and then we can grow deciduous things, fruit trees and all kinds of things like that. So we can sort of like make a micro environment that's wetter than the average up here, you know how it is, dry during the summer. And then using pray water systems and snow catchment systems and

all that stuff. That's part of the whole picture, use what comes on the land, with the land, and reuse it until it's – it gets disbursed, turns into fruit and vegetables, animals, and all that kind of stuff.

…

I: And what would you say kind of keeps you going in this kind of lifestyle of energy efficiency, and it's bigger than just the traditional energy efficiency but kind of what keeps you going?

R: I don't know. Something feeds me somewhere. I think it's true for everybody. If you find where you belong, you get fed by that. And it's hard work but it somehow even the work feeds you. There's an energy flow, and if you don't block it along the way, it just keeps happening. I don't know. That's the best I can guess. I know that land feeds me when I go home, I just feel, Aww, I feel like air here and just – Missoula is very intense but it's an extroverted world and I need the introverted world just to keep my energy from being blocked. Too much of this and I need to go home.

…

R: I'm a person that's driven from inside, and so when like somebody – Brian says something about this meeting, it's like, click, I'm going. It was not, Oh, I really want to join a eco – you know what I mean? It wasn't an intellectual process. It's just like something that's like it clicked so I did it. And when I look back on my life, it's been run that way, it's been run from messages inside that when something happens out there that I need to do, I just get the energy and I do it. I don't know how that works, some internal guidance system but it works.

N8.8 Andrea

I: So I'm wondering how you get yourself and your family around town. What are the different ways you use?

A: I would say it's dependent upon location, but – and weather. So primarily in fair weather, so spring, summer, fall, it's – our primary mode is biking. So biking with trailers for the kids or even our 4-year-old is very well versed at biking himself and can bike to town and back.

I: Nice. Wow. That's great.

A: Yeah, so he's been on a two-wheel bike for a while and that's how we go to a majority of places now. The restriction on that is like to the grocery store, we drive. Commuting back and forth to work sometimes is on the bus. But I would say we're a one-car family so we primarily do other options. Family has no problem getting on the bus and going to the mall together, or other locations. But I think if we go – and it also depends on how many of us are going. We don't have – sometimes we go as a family – and how late we're staying out. I mean, there are so many factors in making those decisions but it always is a conscious decision as to how we're going to get there, and I think that's important. I would say our first choice during fair weather and such is biking followed by busing and then our last option is the car.

I: Yeah, sometimes you've got to.

A: Yeah, and how late we're staying out and if the kids are sleeping or – a family definitely makes – influences that decision.

I: Yeah.

A: Versus like, Oh, I'm just running here and there and everywhere and I can do that on my bike, more easily than bringing everyone along.

I: Yeah, that's a very good point. And can you tell me about your car, what kind of car you have?

A: Yep. We have a 2010 Subaru Outback wagon, you know (laughs) kind of like most Missoula families have that Subaru, and that's it.

I: And what appealed to you about that car?

A: The space, the capacity. It has a higher miles per gallon than a lot of the cars that are in the same category. It's 25-30 miles per gallon. We bought that new – of course it's a 2010 – from having a Volkswagen Jetta TDI, which is the diesel version, and that got us 45-50 miles per gallon, so it was a decrease but, again, there was pros and cons to both, diesel emission versus gasoline emission, and the capacity of the wagons themselves, clearance and other factors.

I: That's interesting. That's a good point. So it was kind of a combination of features and –

A: Benefits. The space benefit for having two car seats and children and gear and things, we definitely needed more of the wagon style vehicle, didn't want the high profile of the minivan or an SUV, so looking at the Subaru as kind of the hybrid between a car and an SUV, the clearance so you can go more places, especially in Montana, to get to your hiking destinations and around. And then just this version of the Subaru does have good miles per gallon, so that definitely was a factor. It still hits us sometimes when we're like, Oh, really, we're only getting 30. It was a factor in the decision, you know, selecting this over like a Ford Flex or something else. Just had the right combination of things.

I: That's interesting. So I was going to ask did gas mileage play a role in your decision.

A: Totally, yes. It definitely did.

I: Yeah. And did financial considerations impact your decision at all or …

A: I wouldn't say as much as other things. I mean, it was more about the fuel economy, the space, the comfort, those things other than cost. I mean, I can't say we didn't look at used versus new, you know, yes, it has a weight but I wouldn't say it over shadowed any of the other decisions.

…

I: Have you made any other big decisions that relate to transportation, like where you live or travel, like vacation travel or work travel, or anything else that you think is relevant or important that relates to transportation?

A: When we moved here 3 ½, 4 years ago, we did look at where our house would be located in relation to the job because we were coming here for the job so the job was fixed and then we had the flexibility to move in proximity to work. And I'm about 2, 2 ½ miles

from work, which is a good bikable distance, because work is downtown, bikable, walkable in a sense to get to downtown and other amenities so, yeah, choosing a house on a bus line in that kind of proximity to my work life and other options. I would say we also selected my son's preschool based on its proximity to home so that we wouldn't have to drive across town to get him to school. So we bike and walk him to school every day [sounds proud of this]. It's good for him as well as us that we don't get in the car and trudge across town. I think those two things – transportation was very much part of that decision and influenced that. And then I guess otherwise – I can't think of anything else.

I: That's great. That's terrific. So switching to home energy, do you live in a house or an apartment?

A: We do. We have a house, we own our house.

I: And what appealed to you about your house? How did you choose that house?

A: It's a new house so it's under 5 years old, or it's about 5 years old now. Again, it was on the bus line so being a new house it's more energy efficient. I mean, we came from a hundred year old house so looking at the pros and cons of that. Again, location and the neighborhood. We have a very family-oriented neighborhood so that was a big decision.

I: Nice. And can you tell me a little bit about energy in your house, kind of how you make – how you use energy in your house and how you make decisions about using energy.

A: We're very conservative on energy [laughs], maybe to a fault. It's funny because we just had an energy audit done, and we were told that of the audits they've done for, I don't know, 50 or so households, we're the lowest consumers and that we use a third of the energy that other households do of similar size and occupancy. So, again, we're a family of 4 in a moderate-sized house and we have the habit of turning off lights and not leaving things plugged in and making sure that when we go on vacation our hot water heater is turned down, and that we have a programmable thermostat and so we utilize that function. And even though my husband and kids are home during the day, that we try to utilize solar – like the passive solar – solar light heat coming in through the windows or – we don't have an air conditioner so we just leave windows open or – so in the summertime open up the windows in the morning, cool everything off, shut them before it gets to the heat of the day, and using window blinds and things like that. So definitely a very conservative approach to things.

A: I guess for me personally it has to do with my interest in the environment. I'm protecting the environment with – I have my degree in biology and environmental science and knowing the impacts of energy consumption in addition to cost savings. I would rather spend my money on a nice dinner out or even at home than I would pay the electric company. So having a dinner by candlelight is nice [laughs]. I don't know – and I think it is the balance of that. We don't have a lot of control over how much our energy costs but we do have control over how much we spend on it. Does that make sense?

I: Yeah. Absolutely.

A: So I'm making those conscious choices.

…

I: Yeah, that's great. I'm wondering if you – did you think about or do you think about climate change at all when you're making decisions about personal energy use in transportation, is that kind of a primary motivator or in your mind at all or not so much, it's other things or …

A: To me it's all related, you know, again, going back to the kind of the essence of it, it's like I'm doing this for the environment and a side benefit or an additional benefit is the cost savings. So they're hand and hand type thing. So do I consciously go, I'm turning these lights off to save the world? No, but what's motivated that habit is definitely a reduction in consumption of fossil fuels and oil and all of that.

N8.9 Maya

I: So I'm wondering how in general do you get yourself around town, you or your family or your dogs –

M: I usually bike from March to mid-October and then in between I take the bus for my work commute. For my other trips, I usually walk if I'm going downtown. If I'm going to the North Reserve area, I drive. If I'm going usually to the grocery, I drive, sometimes I bike to the Good Food Store because I'm kind of central.

I: Okay. Terrific. And you mentioned you have dogs. Do you drive them around to hikes and stuff like that or walk them in town more.

M: No. Pretty much walk in town. We're pretty close to the river.

I: That's nice. I'm wondering what kind of car you have; sound like you have a car.

M: I have a Toyota Scion XB.

I: Okay. I know exactly what that is. They're very cute.

M: A funny little box car.

I: Yeah. Very cute. And what appealed to you about that car?

M: It has a lot of head room and there's room for the dogs in the back still and it's short enough to fit in my garage.

I: Nice. That's important. Did gas mileage play a role at all in your decision on that car?

M: Yeah, it has okay – that's the one thing – it didn't have as good a gas mileage as I would have liked but to get better gas mileage I would have had to go quite a bit smaller.

I: Yep. And how about financial considerations, did they play a role at all?

M: Oh, in the car I picked? Yes, absolutely. Yeah.

I: Okay. Terrific. If you were going to buy a new car or if you were going to do it all over again, I don't know how recently you purchased this car, what do you think you would get?

M: Well, I just bought this a couple a years ago, so I don't plan on buying another car, but I would – it would be fun to be able to get a hybrid but I would want something very close to what I have, and that doesn't come that way yet.

I: So kind of talk me through, if you're willing, the features of the car you have now that you would want to replicate, kind of the most important things. If you had to kind of make your own car –

M: I'd want enough room in the car – I have friends with – I have a friend with a really, like a mini, and it gets great mileage but it is really claustrophobic. I'd want a little room.

I: Yeah. Sure.

M: But I don't want anything very big because it's a pain.

I: Yeah. Sure. That makes sense.

M: It's a nice middle kind of car.

…

I: Yeah. It's true. I'm wondering if you've made any other big decisions that relate to transportation, where you live or –

M: Yes.

I: -- things about travel or anything that you think is relevant to transportation?

M: Yeah. I live where I live because I can walk to recreation, to shopping, to work, or bike – I can walk or bike easily. So definitely I have made – that's why we live there.

…

I: Okay. Great. And what appealed to you about that house?

M: It was actually built by Steve Loken whose an environmentally friendly builder and it is very energy efficient, and that is what I wanted about it.

I: Terrific. Did you buy it –

M: And it was small and affordable. Yeah, I did buy it about five years ago.

I: Okay. Terrific.

M: I didn't buy it. I traded two houses for one.

I: Oh, interesting.

M: Yeah.

I: To Steve or –

M: Yeah, to Steve. Then he retrofitted the other two houses and sold them.

I: Oh, interesting. So tell me a little bit about your house in terms of the energy use and kind of how you use energy in your house and the features of the house that are – relate to energy.

M: It's just really efficient. The hot water is amazingly efficient, and I don't know why, to be quite honest, because it doesn't look like any more efficient hot water thing than anywhere else but it really is efficient. So we've never run out of hot water. It's just a little hot water heater but I don't know what it is, but I should ask Steve sometime what it is. And it had three bedrooms and two baths and a small, very small, it was on a split lot, so there's not very much yard, and that was important, and my heating bills were about – heat, light, everything about $70 a month so that's pretty good, all year long, because I do the budget billing thing so that's pretty good. So comparatively to other houses I've had that where the wind blows through them, it's really tight and really efficient. And it's also aligned so you get as much sun as you can possibly get, so, you know, it's really efficient. He did a really nice job.

I: Yeah, that's great.

M: And small, which is also something that I wanted.

I: Yeah, that's interesting. So talk to me about the small side of things. How does that come out as important for you?

M: Well, it's always been important to me. I really think that we – one of my theories when I was doing economics was that I believe people should only be allowed X number of square feet to live in. They can have it gold plated if they wanted, but we shouldn't be allowed to just build endlessly with our, you know, to appease a large couch or something. I don't know why people want these big huge high ceiling, open spaced living spaces. I think it's really inefficient and kind of unfair to the rest of the world to think we get that much space to curl up in. And if you ever look at people in a large house – my sister has a really large house, and what's really funny about her house is they have one small room that they basically live in and they have this monster house, and I realized people want to be cozy and they want to be close together but they think they need all this room, which they don't use. So that's my little deal. I think people should live in less space.

N8.10 Glen

I: So how do you mainly get yourself and your family around town?

G: Yeah, you know, right now we drive a car, and that's because there's ice on the roads. We have young kids so there's lots of safety issues and car seats and blah, blah, blah. But when it's warm, one of us usually drives – my wife or me – we're a one-car family – and the other rides a bike. I often ride the bus as well, like on a day like today, I rode the bus. But, yes, sustainable transportation – I used to work for Missoula In Motion and so it's something, you know, very near and dear, and when it's warm, you know, we have a

bike trailer that both kids can ride in and that's what we choose to do; however family life doesn't always allow us to do that and/or the weather.

I: Sure. Absolutely.

G: I've taken some pretty nasty spills on my bike in the ice. That's usually – I usually ride until I fall and then that's always kind of the wakeup call and then I'll switch over to the bus. So, yeah.

I: Terrific. What kind of car do you guys have?

G: We have a Subaru Wagon, also completely cliché. A green Subaru Wagon with 2 dogs in the back and a roof carrier and, you know, you can probably – yeah. We're – we don't stand out that much here in Missoula.

I: Hey, that's all right. How did you decide to get that car? What appealed to you about that?

G: You know, I think it's probably a good marketing thing. It was a wagon and so it was kind of big enough to haul kids and all the gear that goes with what we like to do. And then with the All-Wheel drive, it gave us the ability to get out a little further as well and feel good about that. And fuel efficiency to a degree, although we actually went back in fuel efficiency when we bought the Subaru. We had a Toyota Corolla before which was about 34 miles to the gallon, and I think the Subaru is more around like 26, 27. So, you know, we knew we were doing that and I think for an All-Wheel drive or 4-wheel drive, Subarus are good on the efficiency end but, again, we took a step back.

I: How about financial considerations, did that play a role at all in the –

G: As far as purchasing that vehicle? Not so much, to be honest with you. Yeah. Being a one-car family was also a financial decision as well as like an ethical one because, again, we want to not contribute to greenhouse gas emissions as much as possible, but gas is expensive too, and so, you know – but, no, as far as purchasing that particular vehicle, financial, we didn't consider that.

I: Okay. Great. And I was going to ask about gas mileage, and you already brought that up. If you were going to buy a new car, what do you think you would get?

G: You know, and, again, this is a family dictated thing rather than our ideal, but we would probably look at a minivan to be honest with you. And, in fact, we have kind of started that search already. And, again, that wouldn't be our ideal car, but that's what our family and our needs right now dictate.

I: And what is it about the minivan that kind of appeals to you?

G: Space, primarily, seating space. Currently with two car seats, my wife and I can ride in our car but no one else can. And so if friends are around and we're – we need to go somewhere that requires a car, we have to take 2 cars. Whereas, a van, we might be able to squeeze someone into that third row. And then when family comes to visit, which they do, each family member – like grandparents, our parents, they try to visit like twice a year to have some recognition for the grandkids and our kids are the only grandkids on

both sides, and so also when they come to visit, if we had a minivan, we could all ride together and/or they wouldn't have to rent a car. So that's why we need the space. And, honestly, they're just really convenient when you have young kids. Like the Subaru is great but, you know, you have to lean over to put in the car seat and you don't have hands and, like, I never thought I would say this in a billion years but I mean it's nice, a lot of minivans these days you have a little thing on your key fob and the door opens for you and you don't have to – it's like all those things really do add up when you're a parent, and I know that sounds a little selfish but like –

I: I can imagine completely.

G: -- banging your head and having a sore back and never having any hands and, you know, just the juggles of kids and everything that goes with it. It's mostly that convenience.

I: Yeah, sure. I can picture these things as I'm imagining all the gear that I'm going to have to purchase over the next couple of months.

G: It's way more doable with one, if this is your first, it still is like a massive change, or it was for us. It's different for everyone but – then with 2, it makes it even that – because you're both occupied all the time; both your time and like your hands. Whereas, with 1, you know, 1 person can like carry the kid or the car seat and the other can haul all the stuff.

I: Open doors.

G: Right. Exactly. But that kind of goes away or diminishes when you have a second. So, yeah. Don't worry, all hope is not lost. It is a radical shift, though, or it was for us in so many ways.

…

G: Biking is my absolute favorite form of transportation. So in an ideal world, that would be it. Definitely.

I: What appeals to you about the bike – how does that rise to the –

G: Several things. One is it makes me feel good about how I'm not contributing to emissions and all the things that go with that; that's an ethical thing I guess. Two, it is cheap; three, and this was – this is something that remains true before and after kids, the exercise benefits of it are huge to me. And, again, I think it's even ramped up more since I've had kids because you don't have all that extra time to go out and exercise and recreate and so building that into something I have to do anyway, which is a commute, I'm thankful for that and oftentimes that's the only 15 or 20 minutes of the day that I truly have to myself. Although, if I have the kids in the trailer, that's not necessarily the case, but you know what I mean.

I: Yeah.

G: And, again, that's the only built in exercise time I have right now when I can ride. I like the pace of it. It's a little bit slower, although it's faster than walking but I appreciate that being able to kind of take note of what's going on in my world. And then, you know, I just – it's less stressful for me as well. I'd much prefer riding along the river trail to

work than waiting at lights and, you know, all those kind of stresses that you have when you drive. So for all those reasons, I prefer biking.

I: Yeah, that's great, makes a lot of sense. Have you made any other big decisions that relate to transportation, like where you live or travel decisions or anything that you feel like are important to cover?

G: We choose to live as close to town as possible, and that is definitely for transportation. I would love to live, you know, 15 minutes outside of town, you're ideal ranchette, blah, blah, blah, you know, Montana rural lifestyle, but we intentionally rally against that actually for lots of reasons. So, yeah, we've chosen to live -- the closest we could live on our budget was the Franklin neighborhood, but I don't think we would ever purchase a home that wasn't at least that close to the center of town or closer. And that has everything to do with transportation. And sort of a land ethic, like a land use ethic that, you know, we do not want to contribute to urban sprawl and we do believe in kind of shared public gardens and open space and all of that. And so, yeah, we choose to live as close to the urban core as possible, if you would call this an urban core, but – yeah. For here it is.

I: Sure.

G: So, yeah, we definitely choose to live close so that we can bike and walk as much as possible.

…

I: So can you tell me a little bit about energy use in your house, just kind of what – how you handle electricity and heating and cooling and that kind of thing?

G: Yeah, like what our systems are?

I: Just kind of what's important thoughts for you about it. Is it a consideration in your daily life or no?

G: I mean, this is another thing that shifts a little bit with kids, like ideally and before we had kids, you know, we would have our thermostat set for 64 degrees, you know, and when you have babies, especially, you can't do that, and so we bumped it to like 68, but we have a programmable thermostat and we turn it way down when we're sleeping or we have it programmed to do that. We've done some energy efficiency improvements since we've lived there. We installed new windows. We just bought a new storm door this year to try to help with that. We could definitely use more insulation, and I think that that's probably what we'll try to do this upcoming year. And then, yeah, we definitely monitor water use as well. I consider than energy thing in the end. And so we definitely try to monitor that. And then like, again, when we can, we hang our laundry rather than dry it in a dryer. I think those are kind of the main things. Turn off lights. Try to teach that to our 3 year old, like, you know, when he's brushing his teeth, we have him turn off the water and we tell him why. And same with lights, he likes to turn lights on and leave them on but, you know, we try to tell him, well, you know, we don't want to waste energy and so when we leave a room or not around, we turn lights off. So those types of things.

…

I: So how does it connect with you for energy in your mind?

G: Well, for energy wise, you know, you're using less water and there are all those connections for sure. I guess that's the main one for native plants. As far as food goes, we connect with it in that the transportation costs, which are energy costs, of importing food – not just importing food from other countries aka South America right now but, you know, even just driving them within the United States from California or whatever, you know, if you could shrink that footprint, then there's a huge energy savings for the world, you know, there, I guess. And also I know that there's a huge energy cost in processing food as well. If we grow our own food and we eat as simple and whole as possible, I guess, we help to lessen those food processing costs as well. And refrigeration and everything that goes with those giant scales, you know, agribusiness I guess.

N8.11 Paul

I: I'm wondering, how do you mainly get around town?

P: Bicycle, number one. Public transit is number one in the winter. I choose my apartment based on where it's located within the Mountain Line system. I want to be pretty close, right now I'm in the middle of two major routes and I can catch three going home. That's pretty nice. During the summer I bike everywhere, and I also have a vehicle, a car, that I use for long distance travel and for hauling, you know, if I can't fit it on a bike or a backpack, then I have a very small car that I can sometimes get stuff in to. It's not a problem.

I: How do you choose between, you've mentioned the large loads, how do you choose between in general if you are going to bike or ride the bus or take your car?

P: Weather. If it's bad out I'll take the bus. If it's great out, bike no matter what, until it gets really cold or bad weather, rainy or snowy. Usually snowy before rain. I'll ride in the rain. But I think the bus is just convenient as well. It's almost faster to take the bus if I want to go to campus, just less flexible in terms of where I want to go throughout the day. Car, it just takes like something I can't carry, and really if I need to get it somewhere. One exception is that I will usually take a car if it's more than 3 or 4 miles, then it starts becoming very difficult for me to ride that far in a way that kind of makes sense to me. That's where it gets outside of my comfort levels, because I think in some ways that's where we get outside really good streets that are designed for bikes so I don't want to ride on Reserve on my bike, that's suicide and so unsafe.

I: That's a good point. So tell me a little bit about your car. What kind of car do you have?

P: I have a Jetta. 2001 Jetta. 2002 Jetta, or something like that. Pretty small. 25 miles per gallon or so, or there abouts. I think more actually is what I actually get from the calculations I've done. But I don't drive it very often, so, mostly out of town is what I mean. Like I try to avoid going to Reserve street so I usually don't drive to Reserve very often. I just try to avoid it if at all possible. But I will use my car if I go up to Flathead or something.

I: What appealed to you about that car when you originally got it?

P: Safety. I actually bought it when I was sixteen and a half. Saved up for years to get it. I wasn't as involved in the environmental stuff when I first got it. I was pretty young. You know I cared about environmental issues but maybe didn't know exactly what to do about them. So fuel mileage was good for financial reasons. I can barely afford the car. But the safety was big, lots of airbags and stuff like that. Parental involvement in the decision.

I: They liked safety.

P: You're not going to buy that car, you're going to buy this one.

I: That was nice of you to involve them. I was actually going to ask, did the fuel, the mileage play a role in the decision on that car?

P: Sure, sure. But I don't think I was going to buy a truck anyway, you know. Mid sized vehicles kind of all have the same fuel economy it seemed like. This was before fuel economy became, like, a really big deal. You know we're talking like 2006.

I: I was also going to ask you if financial considerations played a role in your decision?

P: Definitely. That was probably one of the biggest limitations because I had only saved up so much money, so I had to spend within that limit.

I: I'm wondering if you were going to buy a new car, what would you like to get? What would be your ideal?

P: If I was going to buy a new car…

I: It could be a used car, another car.

P: Okay, yeah. Definitely fuel economy probably number one, because I don't drive it very often, but when I do it typically is over long distances. I'm less concerned about city fuel gas mileage. It's the long distances what's important for me. One thing that I would really like to look in to is making sure I can do this with my current car, but I'd like a better system for being able to throw bikes on the back, and maybe just being able to haul, generally not large items, but just be able to pop open the trunk and extend things through the back seats. Just little things like that that make the uses that I have for it, hauling and long distance, I want to make sure that those are both taken care of.

I: Would you have anything in mind, any particular type of vehicle?

P: I haven't even looked at a car. The car I have I'll drive until it dies and then move on from…maybe live in a city where I don't need a car by then.

…

I: What appealed to you about this particular place?

P: The people in particular that live there I think. It's a really nice place. It's old, it's cheap to live in, rent is really low. We don't pay for utilities which I think is an interesting dynamic because it doesn't necessarily encourage us to save energy, but we still are all the same crowd who would anyway. But it also means not worrying so much about bills in the winter when the expenses are really high because of gas, you know prices, natural gas prices, which is what it's heated with. It's just a nice apartment in general. Very cozy and old and the people living there were really great, so I moved in with them.

I: Great. So, tell me a little about energy use in your house. What are your thoughts about energy use in your house, or how do you approach that issue?

P: We don't worry about it too much, mostly because it is just kind of second nature for a lot of us. Low energy use is always ideal, and we keep the house pretty cool and don't have air

conditioning like everyone else. But, I think that we do our best to reduce energy, water consumption is pretty low. We're able to minimize the overall….It's hard for me to tell you everything we do because it's kind of just something we do naturally, cause we've been doing this for so long. You've got your CFL's, you've got your low flow shower heads, you've got all of the things you do to try to reduce the amount of resources you're using in general, not just energy, but water. And then I think that we did a lot of weatherizing of the apartment because it's a really old building. The windows were all really, really bad. But at the same time we could have done more, we could have caulked the windows better, because we had this weatherizing plastic over our windows, but there's still areas where there's drafts coming in so it doesn't do as good of job as it should in terms of insulating the apartment. But we did the best we could in the short notice we had before winter showed up because I had just moved in.

I: And, it's probably, as you mentioned, a different dynamic when you don't save the money and also you don't own the house. Do you feel like that?

P: I would say definitely the first one, saving the money. When you don't own the house it may not be as big of a deal except when you have to do those major renovations. Like recaulking a window wouldn't be too big of a deal, but to some extent some of the windows just need to be replaced. That is a major expense and not something that renters would ever take on.

…

I: That's a very good answer. Would you say that you think about climate change at all when you make decisions about transportation or energy use? Does it come in to your…

P: Oh, sure. I think I don't reflect on climate change every time I hop on my bike, but it was the reason I made the decision to bike in the first place.

I: That's interesting. So, tell me a little bit about that.

P: Well, I brought a bike out but I think I would have been much more likely to drive a car had I not been involved in the environmental movement. You know. I don't think it was an aha moment but I said why I picked up a bike, but what I meant was the reason I started riding my bike in the first place was because of climate change. Why I started riding actively. But I would say once you get in the habit it's just easy to keep on going.

N8.12 Joel

I: So, how do you mainly get around town?

J: By bike. I don't have a car. I pretty much bike everywhere although my girlfriend does have a car and I will catch a ride with her from time to time. Then I used to live really close to the Park & Ride just by, you know where Dornblazer [?] is, so I used to live on Livingston, right by there. It was super easy to catch the Park & Ride and so I would take the U buses from there. Where I live right now I have to catch two buses and it takes like 39 minutes to get from my house to downtown. It is about a 15-minute bike ride. So hopefully I don't have to not bike too much during the winter, not looking forward to that. Yeah, that is pretty much it. Occasionally I walk but try not to; usually it is when I have a flat tire.

I: Tell me about your decision about not to have a car.

J: Well, I don't think is that necessarily…it just works for me right now. In all honesty, I have enough friends or friends who are interested in getting out--I don't know if I have enough friends or not! – but I have enough friends who want to get out. So if I want to get out on the weekend, it usually is not a problem to borrow a car or catch a ride with someone else. Around town, I would rather save the money. Although, I am thinking…. It is easy not to have a car when most of your life revolves around campus and like, you know, maybe within a 5 square mile radius. But, this spring, hopefully, I can get a truck for road tripping and stuff after I graduate.

I: You mentioned a truck. What would you like to get whenever you do get a car?

J: Something affordable, hopefully a good gas mileage kind of a truck but something with a canopy that I can sleep in the back if need be. I also thought about getting a minivan and turning it into a camper but I don't know. I have had friends that have some. You can get them more outfitted for road trips. That is not the only reason I would get it but I don't necessarily see myself being super stable in the next few years after I graduate so it would be nice to have a vehicle that I could live in or at least sleep in on trips.

I: You mentioned fuel economy; tell me a little bit about why that is important.

J: Well, financially that is really important. I do kind of feel whenever I drive a car, "ah, I am committing a sin here." But, I don't know, the better the gas mileage the more money you save and the better it is for our atmosphere, our surroundings for sure.

I: So, in an ideal world, how would you like to get around if you didn't have any kind of restrictions?

J: An ideal world? Well, my brother actually works on electric bikes. He words on electric bike motors in Portland and it is not a bad way to go. I do like biking. I think it is healthy, obviously, even if I am so busy I feel like I can't exercise even though I probably do have the time. It is like I have to get to school so I get at least a 15-minute bike ride in. I like biking a lot. I think what is key is you know effectively-planned communities. Are people really working on, like okay, where is the grocery store going to be, how is it going to be accessed, can we bike to this location? So, ideally, I guess I would bike and walk most of the time. I do enjoy driving a car from time to time on trips, just having the freedom to go on back roads or whatever. I do think that is not a super evil thing although sometimes I feel like I do see it as a necessary evil. Ideally, public transit in other countries is definitely way better. I have lived in India for a little bit. I was going to school at an international school there and it was super easy. Sometimes we would take a taxi but most of the time it was local buses and it is kind of a population density thing, too, and just the fact that most people don't have cars. So it does make sense there to. It seems like that is how things work. Once people get too much money, I don't know…. The public services that are there for people who don't have a lot of money start to dwindle. Ideally, we would have really good public transit when needed whether that would be trains or buses, I don't know about airplanes. And then good bike paths so you don't have to fight cars on the road and then just probably the key that you make sure that you don't have to really transport that far.

…

J: But it is a good organization of students [referring to campus climate change organization] that want to do something and not all that we work on is climate related but what I am getting to is we went to this national power shift conference in D.C. last spring I believe and it was a cool conference. But, it is kind of ironic that we are asking for a power shift and everyone – the vast majority – everyone from the West coast flew. It's like, wait a minute here. I think people in the movement have picked up on that. But, at the same time, I think a lot of these people are not at the point

where they are going to sacrifice flights. From what I have heard and from the research I have done, flying is a big part of our emissions as far as CO_2 goes. It is kind of crazy. You can like double your whole CO_2 emissions in a few flights – I don't exactly remember the stats unfortunately -- but I remember when I was going to Australia, when you get to Australia, you are kind of hanging out with these hippie people and "yeah, the earth…" but then everyone, like a lot of these foreigners had to fly on big jets to get here and it is kind of ironic. But, as far as making those decisions, it is hard, it is really hard. At one point, it was like "no, mom, I don't want to fly home for Thanksgiving." It is pretty cool to say that and I did want to go home but it was like I am going to try to find a ride but if I can't find a ride, then I probably should just stay here because it just doesn't make sense to fly around the country. I was probably a little more hardcore, but about a year ago, but I personally, I don't know, everyone has the ability to make decisions that affect the world around them and we constantly are kind of pushed to make decisions that are damaging I think so it is difficult to kind of break outside of that because the common trend is to fly for a vacation, do these things, fly home. It is hard, obviously, when your friends do it and your family expects it or whatever. It is just the nature of the way we live. So, yeah, it comes close to like it is a factor I guess and I did consider taking the train home but you have to get to Whitefish and it is a pain. I considered over the summer, my girlfriend lives in Whitefish and I considered visiting her via the train but I didn't because it was basically the same price as me driving and with me driving it would save two days and I only had five days off of work. So, it was like do I want a one-day vacation or a four-day vacation? Yeah, I think about it; but, unfortunately, sometimes it is hard to just go with the better alternative I guess as far as personal transportation.

…

I: What appealed to you about this house where you live now?

J: Well, basically, my friend just gave me a call and said do you want to move into a house with me and one other housemate? And I am like, okay, sure. It was all set up and I didn't really have time to look for a place. It was basically just convenient. It is not a bad location. I live on the west side so it is close to the train tracks but it is kind of a cool place. I guess in the energy scheme of things I wasn't like "oh, how efficient is this home?" But, I was a little concerned about how much we pay for utilities that is for sure. It is kind of weird because our landlord lives downstairs and we pay the bill for our utilities and our gas and electric and his gas and electric is the same bill. That kind of, I don't know. I have gone down there twice to leave off rent checks and both times all his lights are on and he's gone. I'm like I do not want to pay for this.

I: So he doesn't pay you back for his?

J: No, and that really kind of sucks because he can do whatever he wants. There is no incentive for him to make the decision to turn off those lights. I was kind of hesitant but it works out because he pays for our internet and the water but those are pretty much a fixed rate and don't increase in the winter but, whatever, it is something to consider I guess.

I: That is interesting. How do you guys make decisions about energy use in your house? Or do you talk about it together or does everybody just kind of do their own thing – not including your landlord sounds like you don't have a lot to say over him.

J: No. We don't really talk about it. I did mention to my housemate recently that she could turn off the stairway light but it's like I am telling my dad. "Did you turn off the light?" "Aw, I don't know." "Well I better go check." Other than that, we haven't really said like "okay, we are going to set the thermostat at 55˚." No, we haven't done any of that. Basically, in the downstairs at least

we just have one natural gas stove and then we essentially just turn that on whenever we are there. Sitting next to the stove for some reason is like a rare occasion. But, who knows what is going to happen…. I have never walked in the house and have it like 70˚ and no one is there. So we pretty much turn it down to 50˚ or something like that unless we are there in the room. I don't have heating in my room there is not vent there.

…

J: I grew up in a town that was pretty much "Normalville, USA." It is not like Missoula. There is no local food. There is no farmer's market in my town. When I go to WalMart I see at least one person from my high school guaranteed. Even if I go back now I will see people that I recognize and, you know, it is because it is the only place to shop and that is not necessarily – that is connected to energy use but because in order to get to WalMart you have to drive 20 minutes. So it is kind of interesting. It kind of killed the small town aspect of the town but, getting back to this town that I grew up in. It is not like Missoula because it doesn't have the group think mentality that is so prevalent here. Here, I think people don't really have to question so much their beliefs because of course it is a good idea to ride your bike. For the most part, at least a lot of the people that I associate with and that could just be a result of being the college of forestry and conservation and being involved in student groups and stuff. But I would say for the most part people aren't like "why are you going to bike to campus?" versus I would get that at home. I would get like "you have a car now. Why don't you just drive your car?" I am like "I'm saving money and getting exercise and it is better for the environment." Top three reasons. And they're like "why?" There is just not that consciousness there. People don't see the connections and, if they do see them… You know, I think people obviously are the result of, yeah, there may be some predisposition for something, but also heavily impacted by their surroundings especially when they are young. So when people grow up, their families don't recycle or don't care about that, then they probably are not going to either. So even if you talk with a friend it's still not going to, if their family doesn't know how to work on bikes, they are not going to have a viable option there if they don't have the money to buy a bike or their parents are not really supportive of a bike. Oh yeah you should get a bike, not they'll say, you should save up for a car even though I know it is a piece of crud and it is going to break down in a couple of months or something.

…

I: Would you say that you think about climate change when you make decisions about transportation or energy? Does it play a role in how you decide what to do?

J: Yeah. I definitely think about it but, at the same time, part of the reason I bike is, I will be honest, I'd like to say "oh, I always think about climate change first and foremost." But, it is hard to see tangible… It is not like I ride my bike today and I get a little green sticker that says "you saved x amount of CO^2 units." We don't get those rewards and I don't mean that we should be getting stickers. It is just hard to see how our decisions impact the greater world when it is such a big commons so I don't necessarily make decisions that are not solely based on climate change I don't think, but it is definitely a factor.

N8.13 Rich

I: Okay. So I'm wondering how you mainly get around town?

R: I drive. I started in the last year or so to bicycle a little bit more and I would love to be able to use the bus more but it's not convenient enough, frankly. One of the reasons I do drive is that I go to a lot of meetings and a lot of times I don't have time in between them. Moderately lame excuse but I'm a stickler for showing up when I'm supposed to show up.

I: Right. And if you have to get al.l over town –

R: Well, a lot of it is downtown but a lot of it's not and you do go other places to meet. And even the distance between even downtown sometimes can be – if you're on foot or – bike is okay in the summer – I'm not a winter cyclist and never will be.

I: A little sketchy.

R: Yeah.

I: Well, that makes sense. So tell me about your car.

R: Actually, I used – I had 2 until not too long ago. I sold my BMW and I drive a pickup truck, gas guzzler.

I: Ford or –

R: Chevy.

I: We're a Ford family. That's okay.

R: I would probably never own another Ford.

I: I hear you.

R: I do have friends that have Fords.

I: Once you get loyal, you know, you just stick with it.

R: Well, I wouldn't buy a Dodge either.

I: And what appealed to you about this car, the truck?

R: I can haul stuff around. I'm a tool nut. (inaudible) buy a new tool, I can afford it, I don't tell my wife until after I bought it, and, you know, I have power this and power that. When people need a tool, they usually come to me to borrow it or have me use it.

I: And I'm wondering if when you purchased the car did you consider gas mileage at all? Was that important to you?

R: No, not at the time. I had just met my – now she's my wife, then she wasn't – but we were getting pretty close and she had a boat and no way to pull it, so I traded the car that I had, a Ford –

I: The last Ford.

R: Yeah, the last one. I traded that car in and she put a little bit of cash in it and that was our first venture financially together. So we bought it primarily to pull the boat. I will probably always want to a pickup truck, even if it's a smaller one. In fact, I'm looking for, we're actually getting ready to buy a house in Florida – they're half price – we're going to retire there, now's the time to buy a house. We've got family down there. And I'm probably going to buy a small pickup and park it in the garage, have it there when we go to visit, and then when we move down there, we'll have that as transportation.

I: And how about financial considerations, were they important in buying the truck, or not so much?

R: Back then, maybe a little bit. Right now we're fairly financially stable. All of our kids are, knock on wood, gainfully employed and very employable people. They don't rely on us for anything. I mean, literally. In fact, one of them bought us plane tickets to fly to Seattle to come visit, about 2 months ago. Come up and visit. So they've actually got enough money to help take care of us. So we don't – money is really not an issue, although we don't just throw it at that stuff either. My wife will not get in her car – she's a hairdresser – she rarely will set up day where she goes into work where that day isn't packed. She will move a client rather than start her car and drive to work for one client. Trade off isn't there for her. So we kind of watch when and where we go. Obviously, we've got to go to work but we don't run needless errands, and gas prices are part of that.

I: Sure. And I'm wondering if you were going to buy a new car, what do you think you'd get? You just mentioned the pickup. If you had to do it all over again, what would be your –

R: Smaller pickup, you know, one of the smaller versions. Yep.

I: And what appeals to you about that compared to what you've got?

R: Gas. I still want to be able to haul stuff around but I don't want to spend as much money on gas as I'm spending. But I'm actually one of those folks that thinks that gasoline is way underpriced, and I've been saying this for almost 30 years. This country subsidizes the automobile way too much. And if we were to pay the true price at the gas pump, for what impact the vehicles have, I'm not sure if that's the only place that it should be addressed, but it's certainly one of the places. I'm not sure we could afford it.

…

I: Where do you live in town?

R: I live in Pleasant View. Behind Home Depot, in that big development there. When the kids left home, we downsized considerably. One big reason was the one time my wife – she's a clean-oholic, and she wanted less to clean, and we want to spend less money heating. As it were, I wanted to spend less time mowing. We lived on an acre. Just maintaining that was a chore.

…

So tell me a little bit about energy use in your house, kind of what are the things you're thinking about, how you make decisions about energy, what are kind of the issues for you?

R: We turn our thermostats – you can go to my house right now and it's going to be 60 degrees, easy. We put in a little gas fireplace in our living room. In the winter, we heat

just around the TV where we're sitting before we go to bed. We turn our thermostat down right after dinner, 6:30, 7:00, and it's the only part of the house we heat is where we're watching TV. We did some winterization. We added storm doors to the house, those kinds of things, make sure the insulation is where it needs to be. If there's cracks in the windows, we deal with them. So we try to keep our energy consumption down. Partially, we don't spend the money, but try not to waste.

…

I: Would you say you think about climate change at all when you're making decisions about energy use or transportation? Does it kind of factor in –

R: Not directly. I'm pretty aware of it. But if I've got to go somewhere and do something, I'll jump in my pickup, start it up and go. I think that's a good indicator of government needs to do the things and, you know, say, well, you shouldn't rely on the society to be creative, none of us is able to go find a piece of ground and do self sufficiency farming in the world we've created as humans. Our government is the place you go for things like that, in my opinion. So if gasoline were where it needed to be, or even close to where it needed to be, I think it would have an affect on people's decisions. Right now, even three bucks or whatever it is, it's not high enough. I need that help too, and I actually think I'm – I'm a pretty independent thinker and I'm not afraid to voice my opinion, pretty strong-willed and I would say in the context of the environment that humans have created, I need those incentives as well.

N8.14 Rachel

I: How do you get around town?

R: I walk a lot. I own a car but I don't use it very often because I live within walking distance to my job, to a grocery store, to downtown where there are restaurants and bars and entertainment, so I don't use my car a lot except to go out to Reserve to like Target or thrift store shopping or something.

I: How do you decide like when you are going to drive versus when you are going to walk, what are the sort of factors that make you decide to walk or take your car?

R: If I have meeting where I have to wear shoes that are nicer [laughs] that are not walker-friendly for long distances, then I might drive. If I have a meeting downtown from the university, that can be kind of a longer, like 25-minute walk, to the mayor's office. I try to plan to wear shoes that are more accommodating for walking downtown. I have lived in big cities, too, but I try to be a fashionista a little bit.

I: That is good. We need some more fashion in Missoula.

R: So, I try to actually walk wherever I go because I don't want to use my car because parking downtown is really crappy. I try to see how long I can go without filling up on gas. On the weekends, though, I will drive my car to Target. Usually I go with more than one person. I have three roommates so maybe one or two of my roommates or even a friend who does not have a car, I will take them. Usually I am not alone in my car and thrift store shopping because I do enjoy thrifting. So I guess the factors that are involved are depending on whom I am meeting and the weather. So if it is really, really bad weather, I might drive or if it is raining really hard or, you know, in my office. If I get really busy if you can't tell for how many times we've rescheduled this. but I am the only one that does everything. So sometimes I like to book things to the max and then I have to drive my car to get somewhere on time. Did that answer your question?

I: You mentioned that you try to not fill up your car very often. Just tell me a little bit about your thought process there.

R: I have an SUV, kind of a smaller SUV and it is kind of a gas guzzler. It is not the worst but it is not the best either. So I feel like I purposely picked where I live based on where I work and where I go to do grocery shopping and that I go downtown to have drinks with friends and dinner. So that was made so I'm not spending more money on gas. So I don't fill up not more than once a month which, my gas tank is pretty small, so that's is okay.

I: Wow, that is really good.

R: It is not so much an eco as monetary thing. And a hassle thing as well. I just don't want to put the miles on my car because it is an older car but it has pretty low miles and I am trying to keep it lower even though I have made many trips to Portland and Seattle and even cross country to Ohio.

I: You mentioned that it is an SUV. How did you decide to get that car? What appealed to you about the car you have?

R: My mom bought it for me so it wasn't my decision at all. I told her that I needed a car when I moved, when I graduated from Missoula from here at the University of Montana, when I moved away and moved to a big city and I didn't have great public transportation for my job. It took nearly an hour to get to my job and it was only like 5½ miles away. So it was so annoying. You had to take this and do this and then do this. So, it was like that's it. I need a car plus my job really had me going all over town. My mother had bought my brother a car previously while he was in college and she hadn't done the same for me so I asked her if she could get me a car? So, yeah, she had a friend and their parent died and so they were selling the car. And she was like "I found a car for you" and this is what it is. I would not have chosen that had I had a choice because it doesn't even have four-wheel drive. When you live in Montana and a small SUV doesn't have four-wheel drive and the tires are city tires, it is just like so dumb. I was like no, you're no SUV. (Inaudible) It's useless. But it is great for moving across the country, for shoving stuff in it…

I: Well, that is part of my next question. If you were to get a new car, what would you like to get?

R: It would be great to have like a Prius. My roommate has one and it is an older one and I know now like hers the get up is a little bit bad, but I think they have fixed that in the last five years so the pick up is better. So, I would definitely look at that or some kind of hatchback because I do like the opportunity to shove a lot of my stuff. Even though I have been here for a few years, I like to feel like I am mobile like at any moment I could leave, even though I probably won't; but I like to feel like I can put a lot of possessions in the back if I needed to move across the country again. It would be… gas use would be a factor.

I: So tell me, you just mentioned a little bit about gas, what appeals to you about the Prius?

R: It doesn't use much gas so that would be the big thing for me. I guess you get the best of feeling good about your impact on the environment and you get to pay less for gas. Have your cake and eat it too I guess.

…

I: So tell me, you just mentioned a little bit about gas, what appeals to you about the Prius?

R: It doesn't use much gas so that would be the big thing for me. I guess you get the best of feeling good about your impact on the environment and you get to pay less for gas. Have your cake and eat it too I guess.

…

I:How do you or you and your roommates make decisions about where to set the heat, or use the electricity and that kind of thing?

R: Well, we have what I call "thermostat wars." I am the one that pushes the thermostat up and my roommate --who actually lives in the basement oddly enough --is the one who turns it down. I think the thermostat should be set at a place where I can wear socks and sweatpants and sweatshirt and be comfortable. My roommate thinks I should put on more clothes until she feels uncomfortable. I guess I am a person who gets cold easily. It is really hard to say where our thermostat is set to because there is a giant vent like 3' long by 1' tall right under the thermostat for the entire house. So any time we turn it up, we try to keep it at 65˚, but is that really 65˚? It turns off when it feels 65˚, but the vent is right under it in the wall, maybe 3' below it, so it is really asinine. So you never really know how warm it is because people say "oh, it is 65˚." "How do you know it is 65˚? It is an old home to you and my bedroom is right above the laundry room which doesn't get heated that well. I have a couple of windows so I have put up velevet draping and close the blinds and it is like black in there because I try to contain the heat. In the basement, she has a space heater and she tries to click it on when she thinks it is too cold at night. Then in the upper stairs we like burn up because they are like what the hell are you guys doing. So we turn it down and up. We try to turn it up a little bit so it is comfortable to sleep and then during the day we try to turn it down to 62˚. Like this morning when I left I did it. But half my roommates don't have classes today so they are home all day and they will probably turn it up because they are home. It is long and complicated.

I: That is what I am trying to get at is how do these things happen in people's lives. What do they think about?

R: When I got the first bill for this season, last year we kept it up not that high, probably to 70˚ or so and everyone was kind of happy for the first month of coldness to see how our bill would be. Anyway, when we got it, it was like $400. So then we weatherized. We got the free weatherization kids from Northwestern Energy which you could only get one. But, we did all that and it helps and then we also try to keep it down and that is what started the thermostat wars last year. So, now we just weatherized last weekend and took a few hours out to try to do the plastic all over and got half way through the house.

I: So, doing the weatherization and things, what is kind of motivating you there?

R: To save money.

I: Yeah, that is an expensive heating bill.

R: I think it is definitely more money than it is the environment.

…

I: What is your perspective on what might happen with climate in the future? Do you feel concerned about it? Or not concerned? What do you think?

R: I guess I am concerned about it. I do individual things that I realize don't…I know better. I do individual things that help me individually as a person like I will recycle quite a bit. But, like, I

got this coffee but it is too late to wash a coffee cup so I just got a paper cup then again I am sick, so I am like or whatever. Anyway, I get most of my clothes from thrift store shopping. There are a lot of things that I do where I am more environmentally conscious that I do because of that, recycling, so because of that I am concerned about it. But, again, there is Slaveryfootprint.org you can see how much stuff you use and how many slaves you are contributing to online.

…

R: So, I guess there are certain things when you are recycling I definitely do it because it is easy because we have recycling on the university property, so our recycling is right behind us in the alley. We have it sorted in our foyer, you know, boxes for cans and whatever, and the glass. I purposely make trips to the Good Food store to put in our glass jars and we wash them out. So I guess I make personal efforts like that but I don't make other efforts. My other efforts are usually to save money. But they do have an ecological benefit to them like buying secondhand and walking; but they are more of a personal decision.

I: For other reasons.

R: For selfish reasons.

…

I: Would you say that you think about climate change when you are making decisions about energy use or not so much?

R: No, not really and not on a personal level. I only think about it when I am reading something about it. But, I don't even think about my personal impact because I feel like I am such a speck in the whole thing, you know a drop in the bucket.

N8.15 Liz

I: Okay. So I'm wondering how do you mainly get yourself around town.

L: I bike mostly.

I: Okay. Great. And do you own a car?

L: Yep, I do.

I: What kind of car do you have?

L: I have an '86 Honda Accord.

I: Okay. Cool.

L: Yep.

I: And what appealed to you about that car?

L: That car, it was in my price range, I paid for it in cash, and it's my car.

I: Great. And in terms of biking, do you bike mainly to school or other places as well or –

L: For about the last year, I bike everywhere. I mean, the last couple of days I've used my car but all winter I use the bus system. I don't use my car all that often.

I: And tell me a little bit about kind of how you decide when you're going to ride the bus or when you're going to bike or when you're going to drive, how you think through that whole thing.

L: Mostly it just depends on the morning. Like I get up, give myself enough time to bike to school, and then anywhere I have to go from school is on my bike. Once I have my bike in the morning, it's a biking day. Whereas, you know, like the last couple of mornings, or even yesterday morning I biked first and then I got to school and was covered in mud and decided I did not want to bike the rest of the day. It just kind of depends on the weather. When it was snowy – even when it first snowed, I was still biking but then it was icy so it was time to take the bus. Just weather really depends on whether or not I'm going to drive.

I: Sure. So do you park on campus then when you drive here or –

L: No, I park off campus.

I: Yeah, that's always a tricky thing with driving to school.

L: Yeah, just kind of gave up but I'm park – I'll give myself enough time to pretty much walk from Higgins because there's just never parking.

I: Yeah, sure. So I'm wondering did gas mileage play a role at all in buying that Honda?

L: Uh-huh. It definitely did. I wanted something with high gas mileage. So when I bought my car, it was right after we moved here and I knew I was going to go back and forth to Helena a lot, so wanted something with good gas mileage.

I: And talk me through a little bit kind of the rationale for gas mileage, what made it important to you?

L: That I would be happy to fill up my own gas tank and I wasn't making a lot of money.

I: Sure.

L: Yeah.

I: And so did – it sounds like maybe did financial considerations play a role when you bought the car as well? You mentioned you paid cash and –

L: Yeah, definitely. I wasn't getting – I mean – I had to buy my own car so it had to be in my price range based on what I had worked and was going to work.

…

L: I think biking, I love to bike.

I: That's great. So tell me a little bit about what – why you would choose biking?

L: I think because it gets me – because then I get a lot more exercise and I'm not really paying attention that I'm actually exercising so it's a way – it's an easy way to stay in shape and when the weather is nice, I love being outside so it's just a great way, another excuse to be outside for longer and enjoy the sunshine.

…

I: So tell me a little bit about kind of energy use in your house, how do you handle that, like, you know, just kind of what is top of mind or not top of mind about – is energy top of mind or not top of mind when you're thinking about your house or just kind of how you approach electricity, hot water and that kind of stuff?

L: I mean, I try to keep it top of mind. I don't think our house is very efficient, like we're looking at our hot water heater and we can't turn it up any more and we only get like 7 minutes of hot water. As far as that, I mean, there's some things that we don't really, as renters, we don't really have control over or can't afford to fix or whatever, so – but I mean as far as like heating, the furnace is set to a certain heat and I know that – I mean, I have a lot of like house managing responsibilities so I tend to just leave notes and say don't touch the heater. Or a lot of times our door doesn't get closed. There's a lot of – I feel like I have a lot of stress saying this is just kind of like money going out the door and I don't like it. I mean, I like to think of myself as environmentally friendly too but at this point I'm just looking at it as money and I don't like when our energy bill comes and it's way higher than I think it should be.

…

L: I think the saving money I definitely grew up with that. I grew up in a really frugal family. So I mean it's something that I – in some areas of my life I'd like to let go of a little bit but as far as conserving energy, I don't see a problem with turning the heat down a little lower than maybe other people do, I guess. I try not to turn it down too far because that's just uncomfortable. I've also gotten to the point where, you know, I rented a house and we kept – it wouldn't go above 68 ever and now I'm to the point where, you know, if there's a day that we have to turn the heat up, I'd rather be comfortable than not comfortable. So, I don't know, and just being I think growing more into being environmentally friendly and – I think with the prices the way they are with gas prices and energy prices, it's – I mean, it's hard to distinguish between being environmentally friendly and just wanting to save money, honestly.

…

I: That's great. Did you think about or do you think about climate change at all when you're making decisions about transportation or energy or not so much?

L: Uh-huh. Yeah, definitely. I mean, like I mentioned earlier, it's always top of mind it's cheaper for me to bike than it is to drive. But being environmentally friendly is also – that comes to mind when I choose to hop on my bike instead of drive my car.

N8.16 Jane

I: I'm wondering how you mainly get around town.

J: I don't have a car so I ride my bike or I'll catch a ride typically with somebody.

I: I'm wondering how did you end up with the decision not to have a car, to just have a bike.

J: Well, actually.

I: Did you say you ride a bike, that's what you said?

J: I do ride a bike. Well I did have a car when I first moved back and I bought a car. I lent it to somebody and they crashed it.

I: Oh no.

J: So, um, I decided just after that, mostly for financial reasons I guess, that it's just more economical right now cause I live close to campus and I work on campus, that I really don't need a car. So, yeah, I just haven't chosen to buy another car.

I: Cool. And in terms of biking, do you primarily use that for getting back and forth to campus or do you bike all over.

J: I walk mostly to campus. I live two blocks. If I'm going to bike somewhere it's to go to the grocery store or, yeah, mostly that, take it to the grocery store to get things that I need.

I: Okay. Terrific. So I'm wondering, in an ideal world, how you would like to get around. You know, if you didn't have any constraints of any sort what would be your ideal situation?

J: Is this as far as like day to day activities?

I: Yeah, it could be day to day…

J: Traveling far?

I: Yeah, primarily day to day but, you know how you see the ideal transportation situation.

J: Well, I think it would be nice to have like public transportation systems available, kind of like how the cities have subways. Like everything's really in walking distance kind of. So, I don't know, me, myself, I would probably choose to live in an area where things were pretty close by that I could, that were easily accessible. Versus like living in the suburbs or something. I guess commuting via public transportation or bicycling, something like that.

I: Great. Do you think that you will be interested in getting a car in the future?

J: I will at some point. I will probably. But I'm going to finish school for now because my living situation, everything permits not really needing a car. But I'm sure at some point in my future I'll get a car.

I: What do you think you would get if you were going to get a car?

J: Um, I prefer smaller cars. In the past I had like a Honda Accord, any Honda Civic. So if I were to get another vehicle it would probably be some type of compact or economy sized car.

I: What appeals to you about that?

J: Good gas mileage, more affordable prices to purchase one of those kind of cars. And just the fact that I guess I don't need anything; you know I don't have a family. I'm just like a single person so I don't need anything other than that. I don't pack things around, you know, kayaks and different things like that.

…

I: Sure. Do you feel like you think about climate change at all when you're making your own decisions about energy or transportation, or…..?

J: I probably should more, to be completely honest.

I: I think we all should.

J: I still, you know, I mean, it's hard sometimes we get lazy and you know, make bad choices. But, I do, I try to. Like, I could, I guess I make small efforts by not getting another car and realizing that I could. Maybe go out and doing something like that. Trying to ride share and things like that, so I make small efforts I would say.

N8.17 Leo

How do you get around town primarily?

L: Car and motorcycle.

I: And what kind of car do you have?

L: I have a '94 Buick Century, a 1995 Ford Windstar, '89 Chevy pickup, and a '93 Honda Shadow motorcycle. So we've got 4 vehicles.

I: And do you use them all equally or do you have one that you primarily go to?

L: I use the Buick most of the time. That's my car. That's my daily driver, or whatever. During the week when I'm going to school, the car sits most of the time. I ride either my bicycle or my motorcycle over to campus. I just live a few blocks away. Or walk – it's all weather dependent.

I: Yeah, sure. And then do you work in town or –

L: I work in Stevensville.

I: So you have to commute back and forth sometimes.

L: Yeah. 30 miles each way.

I: And do you work down there every day or –

L: No. I just work down there on the weekends, Friday and Saturday – Friday night and Saturday.

I: Okay. Terrific. And what appealed to you about those different vehicles that you have?

L: Price.

I: What made you want you to buy them? Price?

L: Price, yeah, definitely. Each one was price. It's all we could afford that would hold 5 people.

I: Yeah, good. To hold your whole family. Terrific. And did gas mileage play a role at all in the decision on any of them?

L: I suppose gas mileage played – made a difference when you purchased the van.

I: Is that the Windstar?

L: The Windstar. We looked at, you know, 5 to 7 passenger vehicles, and so you start looking at SUVs versus minivans, and the minivan kind of had – I mean, we looked equally at SUV and then minivan in the same price range, and gas mileage probably won out as the determining factor going with the van. It's hard to look cool driving a minivan.

I: I'm about to have a family, I know.

L: So the gas mileage – and it turns out that it's really not that big of a difference. I mean, if you look at a SUV has – gets 16 miles to the gallon, that Windstar only gets 18, 20. Maybe will get 20 if you take it on a long drive.

I: A little bit better.

L: It's a little bit better. It makes a big difference now when gas prices are going crazy, you know.

I: Yeah. Absolutely. And did financial considerations impact your decision at all? You mentioned the price, the purchase price of the vehicle.

L: Yeah. We – we decided that it would be better to purchase vehicle for cash than have payments, so, you know, for a couple of different reasons, for the amount of insurance that you have to cover on a new vehicle, the payments versus not, and not having a payment and going to school where you get financial aid, you get a chunk of money and you have to make it last, which you're familiar with.

I: Yeah.

L: So each time we bought the vehicles it's been what we could afford at that minute.

I: Sure. That makes a lot of sense. If you were going to buy a new car, not necessarily meaning brand-new but just another car, what do you think you would want to get? If you had the option to do it over again or you had to get another one.

L: Personally, a red two seater –(laughs)

I: Something fun.

L: Right now it seems like all my needs are met. We're really not looking to get anything else. The fuel economy versus price, if you buy a 10-year-old vehicle and you can afford to pay for it, you can afford – then you can afford to put gas in it versus buying a brand-new vehicle, it costs twenty, thirty thousand dollars, you're making payments on it, the gas mileage savings doesn't equate to the extra money that you're paying for a new car, unless you did a lot of driving. I mean I don't really – I probably drive 120, 130 miles a week. So, you know, if I was commuting like from Stevensville back and forth, I was putting on 500 miles a week, like I had in the past when I was working full time up there in Stevensville, back and forth, and I would put 500 miles on a week, you know, and gas mileage starts to become more of an important issue.

I: Yeah. That's a very good point. So I'm wondering in an ideal world with no constraints – now maybe we're getting back to your red two seater – how would you like to get around if you had no constraints whatsoever, what would be your ideal way to –

L: No money restraints, no –

I: No money, no constraints of any sort. No toting things around.

L: Yeah. If I could drive any vehicle, I would like to drive my pickup truck. It's got 4-wheel drive and 8 miles to the gallon (laughs). But I just use it when I need to because of the gas mileage. Yeah, if I could just drive anything, I really don't care. I'm more of a Point A to Point B kind of person. I really don't care how I get there. Maybe a segway. (laughs) Those might be fun.

I: And you mentioned the pickup truck that that's your favorite of the vehicles, what makes that your favorite?

L: Just the utility of it. You can haul things, you can tow things, you can take off road, you can – there's no place it won't go. Plenty of power, will go as fast as anything else. I probably like my pickup the best out of those vehicles. Only 1 other person can go with me.

I: There you go. That's what I was looking for. I knew there was something. That's funny. Have you made any other big decisions that relate to transportation? It could be anything, it could be decisions about vacation travel or decisions about where you live or anything else that I haven't asked about.

L: Well, I mean, I've been doing some airline travel, shopping, I'm going to China in May, so that's a big trip. I've been doing the airline travel shopping thing, finally got that – I think I got it taken care of today. So that's a big trip. In the summertime, the kids' grandparents live in California, so we've just been talking about that. Are we going to drive down, leave them there for a month and then have them fly back? Or are we going to fly them down and then drive down and pick them up? Or are we going to fly them down and fly them back? So that's all – the decisions – I think it's pretty much made. I think we're going to drive down and fly them back. So that's a big trip coming up.

I: And what kind of factored into the different choices and why –

L: It's a $146 one way for each of the boys, the daughter is not – the youngest isn't going to fly, she's not going to stay down there for a month, she'll come back with – it would

probably cost us $300 each way to drive, so you've got 5 people, $300, can go; 2 people, $300 can go. So that's kind of – airline's actually cheaper if just 2 people go, you know. So it's a $600 roundtrip to drive. So those are kind of the things that we look at for what's the cost benefit.

I: That's interesting. It seems like you've done a – did a lot of research.

L: Just as a matter of fact me and my wife talked about it last night, so we kind of made the decision last night. Things like commuting, you know, should I – come summer, should I work more in Stevensville? Or I've got an opportunity to do something here in Missoula where that will save me – if I go down and work for a hundred dollars a day in Stevensville and it costs me $10 each way to drive, really only making $90 and then I've got the extra time. If I could work here in Missoula for $80 a day, is that extra time worth the $10. So that's kind of that kind of decision-making when it comes to doing that.

I: That's interesting. You have a very carefully planned approach.

L: Well, it's not carefully planned. It's what's the opportunity, you know, but you weight the cost of the opportunity. I have an older car, you're driving it a bunch, you're going to have more repairs.

…

L: I don't recycle aluminum, I think that's a waste. I think the cost of recycling aluminum doesn't make the value of what it costs to reconvert the aluminum. It's not like – if there's a – if I have an aluminum can in my hand and there's a place that says recycling, I'll throw it in there but I'm not going to go out of my way to do that. Yeah. I like the increase use of solar cells and I see these wind farms, they're just popping up everywhere, I think there's some – are they just putting wind farms to generate jobs, I really don't know because I heard – I've talked to people that said that the benefit from using this wind energy is hard to capture because of the distance of the electricity as to travel, it's – what's the word? – it's time sensitive. You can't store it.

N8.18 Lynn

I: So I am wondering how do you mainly get around town you and your family?

Lynn: We drive.

I: And tell me a little bit about your car. What kind of cars?

Lynn: I drive a Honda CRV. So we live up on the hill and need all wheel drive. My husband has a Chevy ¾-ton pickup truck that he drives around.

I: And what appealed to you about your Honda?

Lynn: I like the all-wheel drive and just kind of like the size of the car and economy.

I: And how about the truck? What appeals to you guys in particular?

Lynn: My husband just loves chevy trucks. and we also, you know, we camp in the summer. We pull our camper with the truck.

I: Did the gas mileage play any role in the decision on either of those cars?

Lynn: Yes. Actually the truck doesn't get great gas mileage but we actually did trade it, we traded in an old truck, I don't remember what it was, but this one did get better not a tone better, but it is still better. And my car, I looked a lot, at all-wheel drive and the gas mileage just to try to find one that was decent. It gets decent gas mileage. It isn't great but it does okay for all-wheel drive.

I: And how about financial considerations? Was that something you could?

Lynn: Yeah. We had to stay within a budget for sure. So at the time I could not afford hybrid even though I would have loved to have one but they are just a little bit too much for our budget.

I: So tell me, the hybrid what appeals to you if, you know, you had not limitations?

Lynn: I would just like to have better gas mileage. My next car will probably be one of the top priorities for me.

I: To have the gas mileage? Great. That is actually going to be my next question. If you were going to buy a new car, what would you get? What would be the most appealing thing to you?

Lynn: I would love to have a Toyota Highlander hybrid, something that we can pull because we may have a boat and something that has four-wheel drive or all-wheel drive and something big enough for my family to travel in. We do a lot of traveling.

I: Absolutely. So in an ideal world, if you had no limitations, how would you get around?

Lynn: How would I get around? Well right now driving is just the easiest. I actually would like to bike more, to be honest. But where I live it is very difficult to bike and when you have kids and you are not sure if you are going to be called during the day and have to go take care of things, it is harder to bike. So, again, in the ideal world, if I lived down in the university area where I could bike to work I would love that, but, I mean I feel probably pretty ideal with what I'm doing right now. I am not interested in riding buses around.

I: Yeah, sure, especially if you are picking up kids.

Lynn: That makes it hard. My daughter rides the bus a lot so we try to use it as much as we can.

I: Is she driving age yet?

Lynn: Not yet. Next year.

I: So it's probably convenient for her. So me through the gas mileage thing a little bit, what appeals to you about higher gas mileage or what is kind of the trigger, the motivation?

Lynn: Well, for me, a lot of it is for financial reasons just to help pay for getting around because it gets expensive. Also, to conserve I guess, I mean as much as we can but it is kind of hard. Actually I feel like in Missoula it's pretty tough because it is spread out and so we end up doing a lot of driving.

…

I: So what appealed to you about this house?

Lynn: Well, at the time we were looking for a bigger house that we could buy and fix up and we also liked the school district it was in. I wasn't crazy that it was on the hill but we also need space. Like I like to have a little space around my house and somewhere to park our toys, you know stuff like that. And it was the nice neighborhood.

I: We live on the north side and we have a camper, too. So do you park the car, or the camper, or? We don't even have a driveway.

Lynn: We actually just sold our camper. I'm kind of bummed about that. But we didn't use it that much and it was getting expensive to travel around with it to even go places.

I: Just because of the gas prices or?

Lynn: And our family is getting older so it wasn't quite as exciting. We may try something else like maybe boating or just try to do something a little different. Mix it up a bit.

I: Yeah, I feel like we don't use it either as much as we should. It is like fun to have but… So tell me a little bit about energy use in your house. Like how do you make decisions about where you are going to set your thermostat or your energy billing system.

Lynn: So we have gas-forced air and we bought a thermostat that at certain times of the day changes the temperature in the house so we keep our house at about 70 degrees during the day when it is cold or sorry when we're at home in the evening and the 65˚ during the day and then at night. And we do have some electric heat in the basement for a couple little places that get cold but we don't use those hardly at all and we make sure we turn those off when we leave. We do have a hot tub and I am just trying to think of what else is electric and we have a gas insert upstairs that we use occasionally just for comfort.

I: So would you say energy decisions top of mind your mind, you talk about them a lot or not so much.

Lynn: Actually, with our kids we do. We are very good about teaching them to keep the doors closed when it is cold outside but we are not overheating the house. We don't use air conditioning during the summer we just go downstairs where it is cooler. And like I said my daughter she has a little electric heater down there and we make sure that she has turned it down at night and that she turns it off during the day. Not only to save money but, you know, there is just no reason and also turn lights off is another thing. We are actually fairly good doing all that, trying not to have every light in the house on but, again, with kids that can be a challenge.

…

I: Does climate change come up at all in your mind when you are thinking about energy use or transportation or not so much, you know, day to day?

Lynn: Day to day like if I'm driving do I think about climate change? Honestly, I don't think about climate change.

I: I have had people say absolutely.

Lynn: I do feel guilty sometimes because I do drive a lot, but I just feel like with my family situation that we're in I just don't know if there is much else I can do about it. Actually,

our family has tried to, like we do try to make, instead of three trips to the store or one go here and go there, we will sometimes combine and try to do things so we are not driving quite as much. I don't think on it on a day-to-day basis.

…

I: Right. And did that play into your decision on the gas mileage in your car, the price of gas?

Lynn: You know, not so much when I bought my car because I mean, it definitely I I shouldn't say no, I was thinking about that – but I am thinking about it more now. Because when I bought my car, it was still fairly low. It has really skyrocketed since. So, if I were buying a car today that would be much more of a factor than it was before. Even though it was still a factor before, it would be more now.

N8.19 Grant

I: So I am wondering how you get yourself around town.

G: I have a car here but I am living at the Lewis & Clark Villages right now and they have like the transit that are literally like right below my building. So I have been doing that to get back and forth to school in the wintertime. Then in the springtime I will probably go back to riding my bike which is what I did in the fall for the first couple of months of school.

I: So tell me a little bit about your decision to do the bus or the bike to get to school instead of the car.

G: It's free.

I: And parking is not free. That's a good reason. And what kind of a car do you have?

G: I have a Land Rover Discovery 2002. It's not great on gas mileage, though.

I: Hey, that's all right as long as it gets you where you want to go. So what appealed to you about that car when you bought it?

G: Originally, I had a two-wheel drive Chevy truck and I got that before I was planning on coming over here. And I just wanted to have something that was four-wheel drive to go over the passes and so I ended up looking around. I got a really good deal on my car so.

I: That's great. It makes a lot of sense. Did gas mileage play a role at all in your decision?

G: It did a little bit. [long pause, thinking] I guess that just wasn't a main concern when I was purchasing it at the time. Gas was slowly increasing and then that summer it shot up and then it dropped back down so it wasn't really concerning until it is starting to rise now again.

I: What about financial considerations?

G: For like financing for the car in the first place?

I: Yeah, or, you know, the purchase price, or the kind of the operating costs or any of that kind of stuff, did you end up thinking about that when you bought it?

G: I shopped around for a car, looked at a few others of the same car, and decided to go with that one because it came online the night after I had gone and looked at another one, and it was half off blue book because the guy needed to get rid of it right away so I just jumped on it and got it.

…

I: What appealed to you about living in that place?

G: It is new. It is furnished. Utilities were included in that if I didn't say and I mean that is a huge deal because that is $40-50 a month. And I thought it would be kind of fun just to move in with a couple of guys that I didn't know because for the past couple of years I have been living just like a block off campus, my freshman and sophomore years. And that was kind of like more of a group where there is a guys' floor and a girls' floor and then like a living area floor. So I just wanted to try something else out I guess.

I: And so tell me a little bit about how you approach energy use in your house. Are there any things that come to mind that are kind of top of mind issues?

G: Like utilities?

I: Yeah, like electricity, heat, water, or hot water I guess in particular. Just kind of walk me through how you think about that.

G: Well, let's see…[long pause]

I: Or if it is not very top of mind that is fine, too.

G: Let's see [pause] I guess it would really have a lot more of an effect and I would think about it a lot more if it was something that I was paying separately outside of that. But just because it is bundled in there, I just don't think about it that much.

I: Yeah, that is a good point.

G: I mean I try to turn off the lights and just not uselessly waste energy I guess. But at the same time it is just not as much of a priority because I don't have to pay for it individually.

…

G: Definitely. And I think then in the next few years when I am in my own house and I had to pay for the utilities and stuff, it will be a lot more relevant to me. I mean I have definitely thought about it and I think I will be a little bit more conservative when it is something that I will be paying for myself.

…

G: Yeah. I think that there is really no need I guess to waste having a light on or having the air conditioning on or the heat on if you don't need it and if that is helping a greater cause overall, might as well do it.

N8.20 Tony

I: So, I am wondering how in general you get around? How do you transport you and your family?

T: We drive (laughs).

I: Sure. Yup. Me, too. So tell me a little bit about your car? What kind of car have you got?

T: My work vehicle (I am self-employed) is a Suburban.

I: What do you use it for?

T: For work. I am a contractor.

I: Like a building contractor?

T: Correct.

I: Great. So what appealed to you about that car when you bought it?

T: I just think it is the safest car on the road. For me now, it has tons of room so I can have all my tools and everything is always locked up and out of the weather. I have owned four Suburbans and I bought the first one after I was coming back from a hunting trip on icy roads and I had a short wheelbase four-wheel drive at the time and I have never been so scared in my life. I went out a couple of days later and bought a Suburban and they are just a great vehicle. They ride nice. They are safe on bad roads. Other than the fact that they don't get fantastic gas mileage, that is the killer.

I: But, yeah, good for around here in the kind of conditions we have. So, I am actually wondering… my next question was going to be did you consider gas mileage at all when you bought this car?

T: Yeah, and we always try to have a vehicle that gets good gas mileage to take on (inaudible) and stuff. But, the main reason for that vehicle, I guess, was not gas mileage; it was function.

I: So do you have another vehicle in the family?

T: We do. We have lots.

I: And what are the other vehicles?

T: Well, I have another Suburban which I have one for work and one that is kind of the family vehicle. [Conversation with son.] Then, beings as I am an avid motorcyclist, my wife needed a convertible so we have a Cutlass convertible and that is her car. And then her main car is a Cadillac and then my son has a Jimmy. My oldest daughter has a Buick Century. My youngest daughter has a Toyota Camry and we have a Ford conversion van. And then I don't even want to get into our list of project cars because that is what my son and I do. We buy and sell a few cars and fix them up and so we have a fleet.

I: It sounds great. It sounds like you have a whole dealership down there.

T: Yeah, exactly.

I: So, just to focus on your primary vehicle, the Suburban that you mentioned as your primary vehicle, we talked about gas mileage, did financial considerations impact your decision at all?

T: Financial? Of course.

I: And, talk me through that a little bit. How did you think through that when you were buying the car?

T: Well, I don't buy anything new. I always buy them depreciated out so I let someone else buy them and depreciate them and then I buy them. Now, beings as I am a contractor, I always have a couple of cars that I am working on in case work is slow, then I will buy a car that has a mechanical problem, fix it and resell it or if it has a little bit of body damage, then I will fix that and resell it. So, half the cars are cars that I have bought doing that that we still drive, that we decided to keep. As a matter of fact, the cars that we are planning to keep the Cutlass, the Cadillac, the one Suburban, the Ford were all cars that I bought needing something and then just decided to keep. I am very frugal so I always buy them very cheap and fix what is wrong with them and either keep them or resell.

…

I: So what appealed to you about the house where you live now?

T: It was the right size and it had a tremendous view. We have always had houses with a good view and this one certainly meets the criteria.

I: Just tell me a little bit about energy in your house. Is it something that you guys think about, or how do you decide where to set your thermostat or that kind of thing about energy use in your house?

T: We certainly are cognizant about that. My wife works out of the home and so a lot of times she is the only one home. So, rather than heat the entire house to a comfortable temperature, she has – I can't remember what she calls it – it is an individual room heater in her office and so she will keep her office nice and toasty but the rest of the house we keep at 65˚ most of the time. We don't really turn it up until we are uncomfortable. So when everyone is finally getting in at night, then we will kick it up. But, we never heat the entire house toasty warm (laughs); we just don't.

I: So, just kind of walk me through your thought process on not heating the whole house, kind of what motivates you on that decision.

T: The same things: financial and not wanting to waste energy.

I: So how did you get started would you say in terms of your two primary interests that you mentioned in terms of not wasting money and not wasting resources, is that how you grew up? How did you come to think about those things?

T: Well, I think the financial one is just the same as most people – well, not everyone – but a lot of people live on a budget so there is no sense wasting money on something where money doesn't have to be spent. So that is the financial end of it. And then the natural resources is just kind of trying to "do the right thing" and not wanting to use energy that you don't need to use.

…

I: Yea, that makes a lot of sense. What do you think, if anything, we should do about climate change?

T: Well, shoot, I don't know. I guess maybe that is why we kind of operate the household – other than our vehicles because we all drive wherever we go. But, as far as the house and keeping it running, I guess, you don't want to change your lifestyle but you don't want to waste anything

and –perhaps-- impact anything, you know, just because you don't know for sure. I don't know what we should do. I don't think it is worth changing our lifestyle and sit around in a freezing cold house and not going somewhere because we don't want to waste energy or burn a fuel to get there. But, I guess that is a great question and I haven't thought enough about.

…

Would you say that you think at all about climate change or energy independence or energy security – any of those three things – when you are making your own personal decisions about transportation or energy, or not so much?

T: It is probably in the background but it is not a primary thought by any means. The function is always the primary and that's gonna be the comfort of the vehicle. We had a vehicle that got tremendous gas mileage. At the same time I had a newer full-sized Buick and I had a Toyota Scion that got great gas mileage. But where we live and we are always on the highway at highway speeds, the difference between a full-sized Buick and a Toyota Scion is minimal. It is in-town driving where you get the big difference. And so it was uncomfortable, and noisy, little crappy car – I mean a great little car – but it wasn't the comfort. So I sold that and that is why we have the Cadillac because on the highway it gets tremendous gas mileage. It is just ridiculous what a big car gets; it is just in town where it does so bad. So, I guess it all plays a part in every decision. But, in our case, it came down to what did we want to drive. We didn't want a noisy little car. We wanted a big, quiet, comfortable car [laughs].

N8.21 Ben

I'm wondering how do you mainly get around town.

B: Mainly I get around town, if it's anywhere else besides school, I usually take my car. Other than that, when I go to and from school, I usually like to try and take the Mountain Lion bus because it comes right by my house so it's really – it's really so easy that it – it should be the first thing that comes to mind instead of driving.

I: Sure. So tell me when – going to school, what makes you take the bus versus other times take the car?

B: Just because usually when I'm not going to school, I'm going someplace that is way out of the way of buses so I just – I can just go straight there with my car and straight back usually, and because the bus, like, even when you try to take the bus somewhere, the route that goes by my house goes by my house, down to campus, down to downtown and then back again is where it goes. If you're going anywhere out like on Reserve, you have to change buses and you don't know what the schedule is unless you use the bus all the time.

I: Yeah, sure. That's a good point. And how come you take it to school instead of driving usually?

B: Convenience, really. The bus stop is literally right outside my front door. It's on the property line between us and the neighbor.

I: And it comes direct to school then?

B: Yeah.

I: That's nice.

B: Drops you right off in front of the business building.

I: Awesome. That's totally convenient. So tell me about your car, what kind of car do you have?

B: I have – I just actually got it, it's a 2011 Ford Mustang.

I: Oh, cool. Very nice. And what appealed to you about that?

B: Well, I had a Mustang before. I had a 2007, and back when I was -- back when I was in high school when I got the first one, it was because I was graduating and my dad said that I couldn't have a pickup because a pickup did not get good enough gas mileage. So we started looking around for a car and our dealer said – he's a Ford dealer in Havre – said that it would be easiest to get a hold of a V6 Ford Mustang and actually the gas mileage wouldn't be too bad on that. So ended up getting pretty good gas mileage and this new one that I got gets even better.

I: Oh, nice. So would you say gas mileage was a consideration –

B: Huge.

I: -- primary consideration in choosing those vehicles?

B: Huge consideration. Yeah. Next to looks, of course, but, yeah.

I: You got a good one with the Mustang. So tell me a little bit on the gas mileage front, just kind of how it played into your decision.

B: Well, back when I was in high school, even the new pickups they were coming out with that had V8s and 4-wheel drives were only getting somewhere in between 15 to 18, and that – at that time the gas was up like it is now – I think it was close to $3.00 a gallon, if not over, and so we just said, well, it's got to get way better than that, so the Mustang – the V6 Mustangs that were out at that time were supposed to be getting 26 to 28.

I: That is a lot better. And what about financial considerations, did that play into your decision at all in getting this –

B: Uh-huh, because I only had a certain amount of money to spend on this new car and I had a set of cars that I was looking at and it actually wasn't my first choice because I didn't think it was in my price range, and then our dealer said that, no, no, wait a minute, it actually – it actually is if you want to get a hold of one, so I said, okay, let's try for that then.

I: That's a lot. So I forgot to ask on the gas mileage question, just talk me through a little bit, if you will, why that was important to you when you were buying that car

B: Just because the mix of what kind of car I was getting, because looks and performance were also really important to me, but I definitely needed something that wasn't going to cost me, you know, 60, 70 bucks every time I filled it up. Like I said, it actually wasn't

even my – it wasn't even the car that I was hoping to get because I figured not only it would be too expensive but also the insurance would be too expensive, but that didn't actually turn out to be the case. When we found out, you know, it doesn't cost us much, the insurance isn't going to cost as much, and it gets 28 miles a gallon, sure.

…

B: Yeah. I live with three other people in a 3-bedroom plus a bonus with 3 bathrooms.

I: Okay. Nice. How do you guys handle utilities? Is it in rent included or is it –

B: It's separate from our rent and so we just take the utility bill and split it 4 ways.

I: So tell me a little bit about kind of how you approach energy use in your house, just kind of – is it something you guys think about or talk about or not so much or –

B: Oh, well, we don't want to end up paying a huge amount of money for our energy bill so, like, throughout the winter we try to keep the thermostat pretty cool, like we – I think the warmest we ever turned it up to was about 67 in our house. Would much rather put on a pair of socks and a sweatshirt than turn up the heat. Electricity wise, we're probably a little bit – probably a little bit – what's the word I'm looking for? – liberal on electricity use, like I try to turn off extra lights, you know, wherever and try not to have too many things plugged in, but at the same time, I don't really care if something's plugged in or not. I leave all of my electronic stuff, like my chargers and stuff, in the wall and I know that's not good for them but we – I wouldn't say we're too bad.

I: Sure. But it sounds like it's not like super top of mind.

B: No, not really.

…

I: Yeah, that's a good point. Very good point. I'm wondering if you think about climate change at all when you make decisions about energy or transportation. It's perfectly fine if you don't, I'm just wondering if that ever plays a role.

B: Yeah. I usually try not to think about it during the summer when I'm operating all the heavy machinery.

I: You work on the farm in the summers?

B: Yeah. So, yeah – we're – if we're not using – if we're not using tractors, we're using trucks and if we're not using trucks, we're using combines or any combination of the 2. It's just – we burn a lot of diesel fuel.

I: Yeah, sure.

B: Usually, especially when we're down here, I try to make more energy conscious decisions just because I guess you, here, as opposed to home, I have the option to. Whereas, home, if I've got to go somewhere, I got to drive.